GRADUATE AERONAUTICAL LABORATORIES
CALIFORNIA INSTITUTE OF TECHNOLOGY

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ABSTRACT

Two-dimensional tests were conducted on a NACA 66(MOD) hydrofoil in the the GALCIT* Hydrolab High Speed Water Tunnel (HSWT). These tests were conducted using the hydrofoil with

a. a rough leading edge,

and

b. a smooth leading edge,

covering the following range of conditions:

1. Speed range of 30 ft/s to 60 ft/s

2. Angles of attack of 0^0 to 6^0

and

3. static pressures of 3.03 psiA to 33.54 psiA, corresponding to cavitating, incipient cavitation thru fully wetted flow conditions.

These tests were performed in the two-dimensional test section of the HSWT and included measurements of:

-- Tunnel velocity.

-- Tunnel static pressure.

-- Lift, Drag and Pitching Moment forces (with tare forces removed).

-- Pressure coefficients on 13 taps, 12 at selected locations on the lifting surface, plus 1 location on the bottom surface.

-- High speed (strobe) flow visualization photography under flow cavitation conditions.

-- Airfoil gap dependence on static pressure.

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1.0 TEST DESCRIPTION

This test is a sequel to the earlier tests performed on the same hydrofoil (GALCIT Report HSWT 1139, 4-May-82). That report should be consulted for additional Tunnel geometry details.

1.1 Model mounting

The hydrofoil model was mounted to the Model Mounting Plate. The fairing plate was affixed to the Model Mounting Plate with an adjustable system of dowel pins, set screws and counter-bored socket head cap screws, permitting the fairing plate to be set flush with the test section warp wall (HYDROLAB Drawing 1109-H).

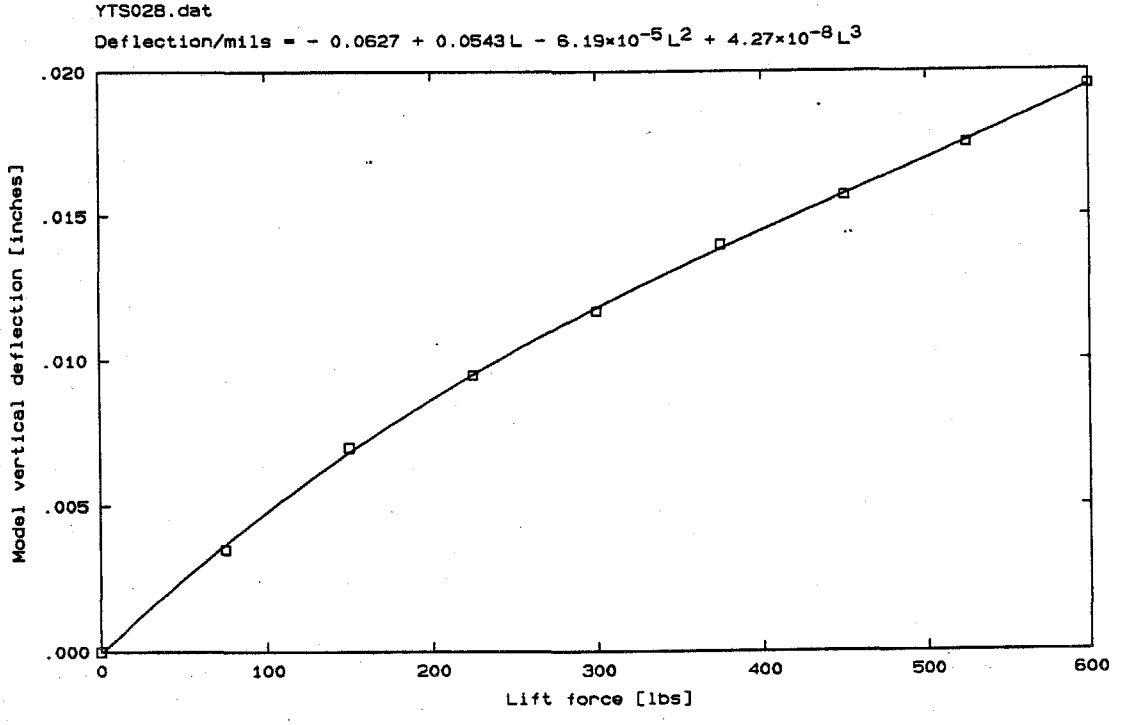

FIGURE 1. Model/fairing vertical deflection vs. Lift force.

The gaps between the fairing plate and the tunnel wall were measured as follows:

-- 0°, 0.017" (top gap),

-- 90°, 0.021",

-- 180°, 0.016",

-- 270°, 0.013".

Note that minor corrosion at places may have reduced these gaps by a few mils, causing problems at the largest lift forces that were encountered. The vertical deflection of the model/fairing plate assembly as a function of the vertical (lift) force was measured to verify this and is plotted in figure 1. Also indicated in figure 1 is a cubic polynomial fit for the vertical deflection versus lift. Note that this does not reflect on the linearity of the lift measurements (see discussion in section 1.2 below). This condition manifested itself as a reduced lift coefficient and a negative output on the Drag cell, indicating contact between the fairing plate and the tunnel wall. For those runs, the corresponding forces and force coefficient measurement data were omitted from the plots and summary sheets.

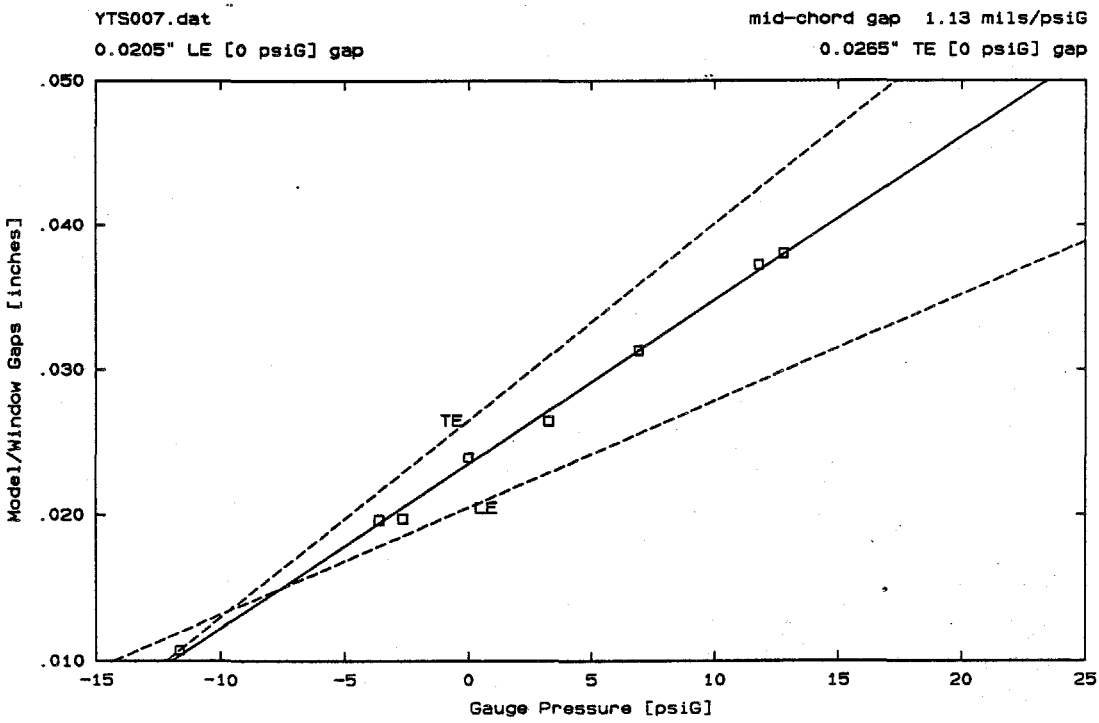

FIGURE 2. Model/window gaps versus test section static pressure.

The model gaps with respect to the opposite (windowed) wall was set at 0 psiG to:

1. 0.0205" leading edge (LE) gap,

2. 0.0265" trailing edge (TE) gap.

Note that the TE gap is larger than the LE gap to accommodate the larger deflection of the window away from its supports. A plot of the measured mid-chord gap versus test section static pressure is included in figure 2. Also indicated in the same figure is the LE & LE gap dependence on static pressure, inferred from previous tunnel calibration data on relative window deflection versus position on the window.

1.2 Force measurements

The model was mounted on a three component (Lift, Drag & Pitching Moment) balance with a metric fairing plate (recall section 1.1 description of mounting details and clearances).

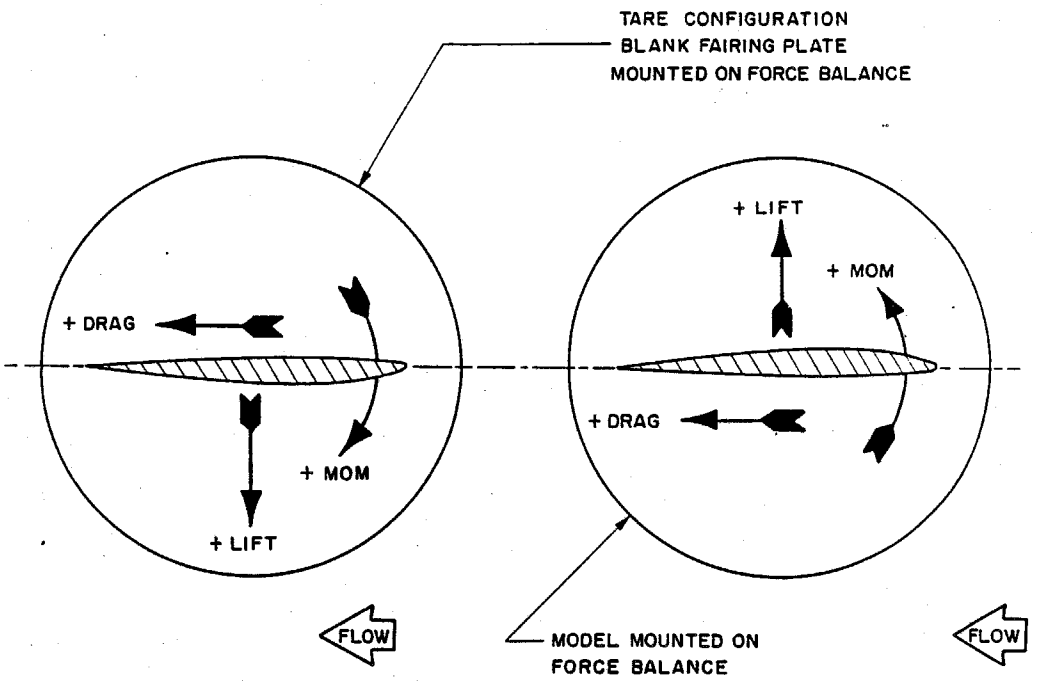

FIGURE 3. Test and Tare mounting configurations.

The force balance was calibrated in the force ranges listed below with accuracies estimated as indicated.

1. $0 \leq$ Lift ≤ 600 lbs, accuracy: ± 0.35 lbs*

* See comment on fairing plate clearances, section 1.1, however.

2. $0 \leq$ Drag ≤ 60 lbs, accuracy: $\pm$ 0.10 lbs

3. $0 \leq$ Moment ≤ 50 ft-lbs, accuracy: $\pm$ 0.02 ft-lbs

The resulting influence matrix and its inverse (calibration matrix) were then used to infer the three force components.

Following the test, tare forces were measured by mounting the model upside down on the model tare mount on the opposite wall and installing a dummy metric fairing plate, on which the tare forces were measured. These were then applied as offset corrections to the total (model+tare) forces that were measured during the test. See figure 3. Tare forces were measured for all the configurations ran during the June 1987 test.

1.3 Pressure distribution measurements

The model was modified to provide the means of measuring pressures on 13 taps as follows. On the bottom surface:

Tap 0: 0.540" from LE (9% chord), 0.013" diameter,

and, on the top surface,

Tap 1: 0.190" from LE (3% chord), 0.013" diameter,

Tap 2: 0.380" from LE (6% chord), 0.013" diameter,

Tap 3: 0.660" from LE (11% chord), 0.013" diameter,

Tap 4: 0.960" from LE (16% chord), 0.013" diameter,

Tap 5: 1.560" from LE (26% chord), 0.017" diameter,

Tap 6: 1.980" from LE (33% chord), 0.017" diameter,

Tap 7: 2.700" from LE (45% chord), 0.017" diameter,

Tap 8: 3.360" from LE (56% chord), 0.017" diameter,

Tap 9: 4.080" from LE (68% chord), 0.017" diameter,

Tap 10: 4.860" from LE (81% chord), 0.017" diameter,

Tap 11: 5.400" from LE (90% chord), 0.017" diameter,

Tap 12: 5.700" from LE (95% chord), 0.017" diameter,

These were placed on a 10^0 line with respect to the flow, spanning the middle section of the airfoil. Actual hole locations were within 0.003"

of designated positions. Hole diameters were within 0.001" of designated value.

The pressure difference between the static pressure at each model tap and the test section reference pressure was measured via a Scanivalve pressure scanner, using a Druck differential pressure (50 psi FS) transducer. This was calibrated against a precision Hg manometer to 20 psi. Accuracy throughout this range was within 0.03 psi.

The usually difficult problem of measuring through a water-filled tube under cavitating conditions was mitigated by two means. First, the Scanivalve/transducer system was located 5' below the hydrofoil, with the hydrostatic pressure difference corresponding to the column of water maintaining a small over pressure at that location. Second, the tubing was filled with de-aerated water, maintained in a container above the test section, and isolated from atmospheric air with a 3/4" layer of mineral oil. A back-flushing system permitted the flushing of each Scanivalve port, measurement tube and tap, via the Scanivalve system, with this water supply as necessary. Measurements could be monitored on-line at each tap, with the value recorded at the operator's discretion. The resulting pressure coefficient $C_p(x/c)$ plots for each run are appended with the data.

1.4 Other measured quantities

Ambient pressure. This quantity corresponded to the laboratory ambient pressure and was measured using a vernier readout, mercury manometer. To the extent that the test section pressure was measured as a *gauge* pressure with respect to the lab ambient pressure, this quantity was used to provide the reference pressure for the test section *absolute* pressure that appears in the run data sheets.

Water temperature. This slowly varying quantity was monitored by extracting occasional water samples and measuring the temperature with a precision (0.1 C) mercury thermometer*. The water temperature was found to be in the range of 24.0 C (YTS220, run 122), to 25.8 C (YTS306, run 208), rising approximately linearly with run number, over the duration of the test, and, as a consequence, not always indicated on the data sheets.

Water air content. The tunnel was operated for a considerable number of hours prior to the initiation of the data runs, using the newly installed deaeration system. This permits air to be removed as the tunnel is running under reduced pressure conditions. The resulting

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* This procedure has since been superceded by an on-line temperature measuring system, permitting real-time temperature monitoring of the quantity.

air content was found to be in the range of 12 ml/lt to 14 ml/lt for the runs described herein. No separate entries of that quantity appear in the data sheets, as a consequence.

Angle of attack. This was set to within 0.01^{0}, as indicated.

Tunnel pressure. This quantity was measured in two independent ways. The entry preceding the computer-acquired data corresponds to reading the absolute tunnel test section mercury manometer (e.g. YTS218, run 120: 5.562 ftHgA = 32.78 psiA). The entry at the end of the acquired data (e.g. YTS218, run 120: Pt = 18.45 psiG = 32.88 psiA) was derived based on the electronic gauge pressure transducer, to which the absolute laboratory (ambient) pressure is added. The small differences that can be noted between these two quantities stem, primarily, from the fact that the former corresponds to a reading prior to the actual run data recording, whereas the latter corresponds to the average of the test section gauge pressure, recorded concurrently with the other data. Of the two, the latter provides the recommended estimate of this quantity.

Tunnel velocity. As with the tunnel pressure, this quantity, which is monitored by measuring the pressure drop across the tunnel contraction, upstream of the test section, was measured by two different ways. The entry preceding the computer-acquired data was inferred using the Hg/Water column manometer height reading (e.g. YTS218, run 120: P_{vh} = 1.952 ftHgW) and the Tunnel (2-D test section) calibration formula:

$$\frac{V_t}{\text{ft/s}} = 28.29 \left[\frac{P_{vh}}{\text{ftHgW}} \right]^{1/2}$$

(e.g. YTS218, run 120: V_{th} = 39.53 ft/s). The entry V_t following the analysis of the computer-acquired data was estimated by measuring the same pressure difference using a (Druck 50 psi FS) differential pressure transducer, referencing it to ft-Hg/ft-Water column and the tunnel calibration formula (e.g. YTS218, run 120: V_t = 39.30 ft/s). As with the tunnel pressure, the small differences arise from the tunnel fluctuations during the data acquisition phase. The latter of the two is the preferred estimate for the same reasons as with the tunnel pressure measurements discussed above.

2.0 TEST DATA

2.1 Data acquisition

The data were acquired by a PDP-11/73 CPU based computer, running the (DEC) RT-11 operating system. All data acquisition software were written in FORTRAN-77.

The computer data input was via a (Data Translation 2782) 8-channel, 12-bit A/D converter. The data accuracy was extended by operating the A/D converter at high frequency (100 kHz), permitting the mean and root-mean-square (rms) of each quantity to be estimated from several hundred 12-bit conversions.

The data inputs were connected to 7 of the 8 A/D channels as follows:

channel	Input
0	Test section gauge pressure (Validyne)
1	Tunnel velocity differential pressure (Druck)
2	Lift cell amplifier output
3	Drag cell amplifier output
4	Moment cell amplifier output
5	Scanivalve position voltage indicator
6	Scanivalve port pressure tap transducer (Druck)
7	Spare

The data were acquired using the PXD158 program (See appendix A.1), under real-time, menu-driven operator control. The real-time output provided was derived using:

1. several manual entries (e.g. ambient pressure, water temperature, etc.),

2. the day's offset data file (e.g. YTS216.off for YTS218, run 120),

3. the A/D input data,

and

4. the test calibration data file (e.g. YTS026.clb, see TABLE 1).

The program produced the real-time data, processed through the offset and calibration matrices, and, where requested, also plotted the pressure coefficient $C_p(x/c)$ distribution over the airfoil surface (taps). The output data were stored in the form of a data file (YTS***.dat).

2.2 Data processing

In the course of the tests, it was noticed that as a consequence of the high data acquisition frequency (100 kHz) and the finite impedance of some of the data channel outputs, the sample-and-hold capacitor between the input channel multiplexer and the input of the A/D converter was not charging to the input value to the accuracy the measurements were being made. The correction, however, was small and a linear function of the voltage difference between the input voltage and the previous voltage. This problem was corrected during the test by installing buffer amplifiers at each input. For the earlier run data, these minor corrections were applied to the raw data files (YTS***.dat) to produce the first level processed files (YTS***.D01).

The first level files (YTS***.D01) were first edited to add comments that were made manually in the test log and then merged with the corresponding:

1. offset file (as indicated in the YTS***.D01 file),

2. calibration file (YTS026.clb)

and

3. tare data files,

as appropriate, to produce

a. the final processed data (YTS***.D02)

and

b. the corrected pressure coefficient plots.

These are included in appendix B, with rough leading hydrofoil edge data listed in appendix B.1 and smooth leading edge data listed in appendix

TABLE 1. Calibration data file listing.

yts026.clb 15-JUN-87
* Add PVport calibration factor (Ports/Volts)

Influence matrix [Volts/(unit input)]

-8.3231E-03	-7.5864E-05	-3.1037E-05
-2.5355E-05	-4.2731E-02	-2.2803E-04
3.8886E-05	5.6798E-04	-8.9262E-02

Offset matrix

-0.0064	-0.0114	-0.0199
0.0427	-0.1277	-0.0328
0.0627	-0.0125	-0.2731

Influence matrix determinant = -3.1747E-05

Calibration matrix [(input units)/Volt]

-1.2015E+02	2.1386E-01	4.1230E-02
7.1569E-02	-2.3402E+01	5.9758E-02
-5.1887E-02	-1.4882E-01	-1.1203E+01

Inverse check

1.0000E+00	1.4552E-10	0.0000E-01
1.4552E-11	1.0000E+00	4.6566E-10
2.9104E-11	0.0000E-01	1.0000E+00

GPtest	DPVel	DPport	PVport
psi/V	psi/V	psi/V	taps/V
4.906	6.200	5.000	10.0

B.2, in order of run number. The relevant offset files are also included.

A summary listing of the two sets of runs, corresponding to the rough and smooth leading edge conditions, precede the actual data in appendices B.1 and B.2 . The data processing program (PXD163) listing is included in appendix A.2 .

The average force (L, D, or M) estimates in the output data represent the average of the measured values of the corresponding force coefficients $< C_F >$, summed over the values yielded during a pressure tap scan, i.e.

$$< C_F > \; = \; < \frac{F_i}{\frac{1}{2} \rho \, U_i^2 \, A} > \, ,$$

where F_i is the corresponding force and U_i is the tunnel speed, measured when monitoring the i^{th} tap respectively, and A is the planform area. See line 448, and do-loop in lines 476 - 480 in PXD163 listing in appendix A.2). This was deemed preferable to the ratio of the average of the forces F_i, divided by the average head, times the planform area, i.e.

$$\frac{< F_i >}{< \frac{1}{2} \rho \, U_i^2 \, A >} \, .$$

The (dimensional) forces were then estimated by multiplying the average force coefficient, as indicated above, by the average total head (times planform area), i.e.

$$< F > \; = \; \frac{1}{2} < C_F > \rho \, < U^2 > A$$

where

$$< U^2 > \; = \; < U_i^2 > \, .$$

In this manner, the effect of the (small) fluctuations in the tunnel test section velocity is properly normalized out.

Tare corrections were also applied consistently with this strategy. See PXD163 listing, lines 63, 64 and do-loop in lines 578 - 582 (appendix A.2).

No processing of the fluctuation (rms) data was undertaken at this time. They have been included in the YTS***.D02 files, however, for possible subsequent studies using the same calibration matrices (no offset corrections need to be made). We should note, however, that with the possible exception of the force and force coefficient data, the frequency response of the other channels was not sufficiently high to warrant a quantitative assessment of the effect of the full spectrum of the fluctuations. Nevertheless, the effect of variations in nominally constant quantities (e.g. tunnel pressure or velocity) can be assessed by examining the variation of the mean processed quantities versus pressure tap # (see appended data files). No quantitative analysis of this kind was made at this time.

3.0 POSSIBLE FUTURE WORK

A discussed in the course of the test, the hydrofoil mounting arrangement will permit, with relatively minor modifications and adjustments, the **hydrofoil** to be **mounted in reverse**. Under these circumstances, additional pressure taps are probably recommended, as the present ones were designed to provide access to locations on the hydrofoil pertinent to flow in the conventional sense.

It would be possible to employ **laser induced fluorescence techniques to study boundary layer behavior**. This would entail setting up an argon ion laser in the 1 W to 5 W power range and using any of the pressure taps to release an appropriate organic dye into the flow. The capability exists at present to record dye concentrations after a dilution by more than 4 orders of magnitude, rendering such a method appropriate for high speed (high Reynolds number) studies.

A study of the **hydrofoil forces fluctuation spectrum** is within the capabilities of the GALCIT High Speed Water Tunnel facility, which is quiet enough (even at high speeds) to have been used for hydroacoustic measurements in the past. Such an effort could be undertaken at a later time, using instrumentation and appropriate data acquisition techniques which could be developed for the purpose. The resulting information could be of importance for a variety of purposes, e.g. in providing the input to estimates of hydrodynamically generated acoustic noise, directly by the lifting surfaces, as well as indirectly generated hydrodynamic acoustic noise, via excitation of the lifting surface(s) supporting structure(s), for example.

Finally, it would also be possible to install one (or more) flush-mounted, high frequency pressure tranducer(s) on the hydrofoil surface for the purpose of measuring the **pressure fluctuation spectrum** under fully wetted as well as cavitating conditions. The data acquisition capabilities are there to handle the bandwidth from several such trasducers.

APPENDIX A: PROGRAM LISTINGS

APPENDIX A.1 [PXD158] Data acquisition program listing

```
0001    c [HYDRO.SHEN]PXD158.for                (RT-11 Fortran-77) Paul E. Dimotakis
0002    c
0003    c       Young Shen Jun-87 test, HSWT data acquisition program.
0004    c
0005    c       19-Jun-87   V3.0 Add PVport calibration to *.CLB file
0006    c       16-Jun-87   V2.0 Correct use of tunnel speed calibration
0007    c                        Separate into included file program blocks
0008    c       15-Jun-87   V1.0 PXD148 derivative
0009    c
0010    c
0011    c Data from A/D converter:
0012    c
0013    c       A/D channel Input
0014    c       ----------- ------------------------------------
0015    c           Ch0:    Test section gauge pressure (Validyne)
0016    c                        Note changes in PXD159.for & PXD158.300 if
0017    c                        Using absolute test section press. Xducer
0018    c           Ch1:    Tunnel velocity Diff. pressure (Druck)
0019    c           Ch2:    Lift   cell
0020    c           Ch3:    Drag   cell
0021    c           Ch4:    Moment cell
0022    c           Ch5:    Scanivalve position voltage
0023    c           Ch6:    Scanivalve port pressure tap transducer (Druck)
0024    c
0025            program     PXD158
0026    c
0027            common      /devcom/ Factor(2),Offset(2)
0028            common      /pltcom/ Plotsz(2),XYlim(2,2)
0029            common      /symcom/ Symsiz(2)
0030    c
0031            parameter   (maxch=6)           ! max{j} [ j=channel #]
0032            parameter   (maxch1=maxch+1)
0033            parameter   (maxip=12)          ! max{ip}
0034            parameter   (maxip1=maxip+1)
0035    c
0036            byte        answer(2)           ! PROMPT response
0037            real*4      Cf(3)               ! Force coefficients
0038            byte        clbfle(16)          ! calibration file
0039            byte        datstr(16)          ! run date string
0040            data        datstr /16*0/
0041            byte        datfle(11)          ! data file name
0042            byte        err                 ! error flag
0043            real*4      Fc(3,3)             ! force balance calibration matrix
0044            external    INDEX,LEN
0045            byte        label(6,2)
0046    c       integer*2   nrun                ! run number
0047    c       integer*2   ntaps               ! total # of taps measured
0048    c       integer*2   ntop                ! total # of top taps measured
0049            byte        null
0050            data        null /0/
0051            logical*1   OK                  ! external OK? query
0052            real*4      Oc(2,0:maxch)       ! Offset & slope calibration
0053            byte        offfle(16)          ! offset calibration file
0054            real*4      Pc(4)
0055    c                   Pc(j),j=1,3           Pressure transducer calibrations
0056    c                   Pc(4)                 PVport calibration factor
0057            logical*1   single              ! single tap measurement?
```

```
0058            byte        string(81)          ! string buffer
0059            logical*1   tap(0:maxip)        ! measure this tap?
0060    c
0061    c       Code                            ip
0062    c       ------------------------      ------
0063    c       Starting offsets                -1
0064    c       model tap pressures           0 - 12
0065    c       ending offsets                 13
0066    c
0067            byte        units(8,0:maxch)
0068            real*4      V(2,0:maxch,0:maxip)
0069    c                   V(1,j,ip)           ! mean
0070    c                   V(2,j,ip)           ! rms
0071            real*4      Vdata(2,0:maxch)    ! A/D data buffer
0072            byte        which(8,0:maxch)
0073            real*4      Xt(0:maxip)
0074            real*4      XY(2,0:maxip)       ! tap position and Cp
0075            real*4      XYz(2,2)
0076            data        XYz / 0.0, 0.0,     ! zero line on plot
0077         #                    1.0, 0.0/
0078            real*4      Y(0:maxch,0:maxip)  ! reduced data
0079            real*4      Ym(0:maxch)         ! average reduced data
0080            logical*1   YES                 ! external yes/no logical function
0081    c
0082            Offset(2) = 2.5
0083            Plotsz(2) = 5.
0084            Symsiz(1) = 0.075
0085            Symsiz(2) = 0.075
0086    c
0087            include     'PXD159.for/list'
0088    1 c     PXD159.for
0089    1 c
0090    1 c     'label', 'which' & 'units definitions'
0091    1 c
0092    1 c                   1234567
0093    1       call MERGE ('mean'  ,label(1,1),5)
0094    1       call MERGE ('rms '  ,label(1,2),5)
0095    1 c
0096    1       call MERGE ('GPtest ',which(1,0),7)     ! use next line for absolute
0097    1 c ***** call MERGE ('APtest ',which(1,0),7)     ! test section press. Xducer
0098    1       call MERGE ('DPvel  ',which(1,1),7)
0099    1       call MERGE ('Lift   ',which(1,2),7)
0100    1       call MERGE ('Drag   ',which(1,3),7)
0101    1       call MERGE ('Moment ',which(1,4),7)
0102    1       call MERGE ('PVport ',which(1,5),7)
0103    1       call MERGE ('DPport ',which(1,6),7)
0104    1 c
0105    1       call MERGE ('psiG ' ,units(1,0),7)      ! use next line for absolute
0106    1 c ***** call MERGE ('psiA ' ,units(1,0),7)      ! test section press. Xducer
0107    1       call MERGE ('Dpsi ' ,units(1,1),7)
0108    1       call MERGE ('lb   ' ,units(1,2),7)
0109    1       call MERGE ('lb   ' ,units(1,3),7)
0110    1       call MERGE ('ft-lb' ,units(1,4),7)
0111    1       call MERGE ('tap #' ,units(1,5),7)
0112    1       call MERGE ('Dpsi ' ,units(1,6),7)
0113            call DATE   (datstr)            ! get system date
0114            call CALIBR (clbfle,string,Fc,Pc)     ! get calibration data
```

```
0115    c
0116    c Get tap locations
0117    c
0118            open (unit=2,file='YTS027.dat',type='old',
0119          #      form='formatted',access='sequential',readonly)
0120    10      call GETSTR (2,string,80,err)
0121            if (INDEX(string,'---').eq.0) goto 10
0122            type 11
0123    11      format (///,' Pressure tap locations:'//20x,' Tap     x/c'/)
0124            do 19 ipp=0,maxip
0125                read (2,*,err=20) ip,Xt(ip)
0126                type 13, ip,Xt(ip)
0127    13          format (20x,i3,5x,f5.2)
0128    19      continue
0129    20      close (unit=2)
0130    c
0131            include     'PXD158.100/list'    ! get file set-up data
0132  1 c
0133  1 c ----- PXD158.100  Get file set-up data
0134  1 c
0135  1 c       Read offset calibration data
0136  1 c
0137  1 100     call PROMPT ('offset file (*.OFF) prefix',offfle,6)
0138  1         call UPCASE (offfle)
0139  1         call MERGE  (offfle,'.off',offfle,10)
0140  1         open (unit=2,file=offfle,type='OLD',readonly,
0141  1       #      form='FORMATTED',access='SEQUENTIAL',err=100)
0142  1 102     call GETSTR (2,string,80,err)
0143  1         call PUTSTR (5,string,0,err)
0144  1         if (INDEX(string,'GPtest').eq.0) goto 102
0145  1 c
0146  1 c       Oc(1,j) = Offset vector calibration at 0 gauge pressure
0147  1 c       Oc(2,j) = Offset vector slope [Volts/psiG]
0148  1 c
0149  1         do 109 m=1,2
0150  1             read  (2,103) (string(i),i=1,10),(Oc(m,j),j=0,maxch)
0151  1 103         format (x,10a1,3x,7f9.5)
0152  1             write (5,103) (string(i),i=1,10),(Oc(m,j),j=0,maxch)
0153  1 109     continue
0154  1         close (unit=2)
0155  1 c
0156  1 110     call PROMPT ('output data file name (prefix)',datfle,6)
0157  1         call UPCASE (datfle)
0158  1         call MERGE  (datfle,'.dat',datfle,10)
0159  1         open (unit=2,file=datfle,type='NEW',
0160  1       #      form='FORMATTED',access='SEQUENTIAL',err=110)
0161  1         call MERGE  (datfle,'    ',datstr,string,80)
0162  1         call PUTSTR (2,string,' ',err)
0163  1         call MERGE  ('* Data processed using ',offfle,
0164  1       #      ' offset file and ',clbfle,' calibration file',string,80)
0165  1         call PUTSTR (2,string,' ',err)
0166  1         call COMENT (string)
0167  1 c
0168  1 c       Set A/D mode
0169  1 c
0170  1         nrec = IVAR('# of records [1 rec = 128 conv./ch] per point')
0171  1         write (2,111) nrec
```

```
0172  1 111     format (' *',i3,' records [1 rec = 128 conv./ch] per point')
0173  1 c
0174  1 120     Pah = RVAR('lab ambient pressure [ft Hg]')
0175  1         Pap = 5.89385*Pah                                  ! psiA
0176  1         Tw  = RVAR('water temperature    [deg C]')
0177  1         Air = RVAR('water air content [ml/liter]')
0178  1         if (.not.OK()) goto 120
0179  1         write (2,121) Pah,Pap,Tw,Air
0180  1 121     format (/
0181  1      #      ' Ambient pressure  : ',f7.3,' ft HgA,  = ',f5.2,' psiA'/
0182  1      #      ' Water temperature : ',f6.2,'  C'/
0183  1      #      ' Water air content : ',f6.2,'  ml/lt')
0184  1 c
0185  1 c ----- Get taps to be measured
0186  1 c
0187  1 160     ntaps = 0
0188  1         type 161
0189  1 161     format (/
0190  1      #  ' Enter A if you want all taps measured'/
0191  1      #  '       S if you want some taps measured'/
0192  1      #  '       N if you want no taps measured   : '$)
0193  1         call GETSTR (5,answer,1,err)
0194  1         call UPCASE (answer)
0195  1         if (answer(1).eq.'A') then
0196  1             do 163 ip=0,maxip
0197  1                 tap(ip) = .true.
0198  1 163           continue
0199  1             ntaps = maxip + 1
0200  1             ntop  = maxip
0201  1         else if (answer(1).eq.'S') then
0202  1             do 167 ip=0,maxip
0203  1                 encode (80,165,string) ip,null
0204  1 165             format ('Do you want tap ',i2,' measured ? ',a1)
0205  1                 if (YES(string)) then
0206  1                     tap(ip) = .true.
0207  1                     ntaps = ntaps + 1
0208  1                 else
0209  1                     tap(ip) = .false.
0210  1                 endif
0211  1 167           continue
0212  1             ntop = ntaps - 1
0213  1             if (.not.tap(0)) ntop = ntaps
0214  1             if (.not.OK()) goto 160
0215  1         else if (answer(1).eq.'N') then
0216  1             do 169 ip=0,maxip
0217  1                 tap(ip) = .false.
0218  1 169           continue
0219  1         else
0220  1             goto 160
0221  1         endif
0222              include     'PXD158.200/list'    ! get run data
0223  1 c
0224  1 c ----- PXD158.200: Get run data
0225  1 c
0226  1 c       17-Jun-87   V3.0 Use offset calibration file data to
0227  1 c                         compute expected offsets at static
0228  1 c                         pressure conditions.
```

```
0229  1 c       16-Jun-87   V2.0 Note that tunnel speed calibration formula
0230  1 c                        is based on a Hg/water manometer.  As opposed
0231  1 c                        to the tunnel velocity differential pressure
0232  1 c                        transducer that is calibrated as a Hg/air column.
0233  1 c       15-Jun-87   V1.0
0234  1 c
0235  1         nrun = IVAR('run number')        ! get run id #
0236  1 c
0237  1 200     iu2  = 5                         ! Type. Don't store data yet.
0238  1         nplt = 0                         ! plot #
0239  1         write (2,201) nrun
0240  1 201     format(//
0241  1      #    ' Run number        : ',i4)
0242  1         call COMENT (string)
0243  1 c
0244  1 206     Angle = RVAR('model angle of attack      [deg]')
0245  1         write (2,207) Angle
0246  1 207     format (
0247  1      #      ' Angle of attack    : ',f7.2,'  degrees')
0248  1 210     call CHDATA (label,which,nrec,Vdata)
0249  1         Ptg = (Vdata(1,0) - Oc(1,0))*Pc(1)       ! psiG
0250  1         Pta = Ptg + Pap                          ! psiA
0251  1 c
0252  1 c       Note that Pth is ft of Hg/air column.
0253  1 c
0254  1         Pth = Pta/5.89385                        ! ftHgA
0255  1 c
0256  1 c       Note that Pvh is ft of Hg/water column.
0257  1 c
0258  1         Pv  = (Vdata(1,1) - Oc(1,1))*Pc(2)       ! Dpsi
0259  1         Pvh = 1.07937*Pv/5.89385                 ! ftHgW
0260  1         if (Pvh .ge. 0) then
0261  1             Vth = 28.29*SQRT(Pvh)            ! Tunnel calibration formula
0262  1         else
0263  1             Vth = 0.0
0264  1         endif
0265  1         write (5,211) PTh,Pta
0266  1 211     format (
0267  1      #      ' Tunnel pressure   = ',f8.3,' ftHgA   = ',f5.2,' psiA')
0268  1         write (5,213) Pvh,Vth
0269  1 213     format (
0270  1      #      ' Speed manometer   = ',f8.3,' ftHgW   = ',f5.2,' ft/s')
0271  1         if (.not.OK()) goto 210
0272  1         write (2,211) Pth,Pta
0273  1         write (2,213) Pvh,Vth
0274  1 c
0275  1         single = .false.
0276  1         if (ntaps.eq.0) then             ! pressure taps?
0277  1             do 237 ip=0,maxip            ! no.
0278  1                 tap(ip) = .true.
0279  1                 type 233, ip
0280  1 233             format (/' <cr> for st. ',i2,' : '$)
0281  1                 call GETSTR (5,answer,1,err)
0282  1 234             call CHDATA (label,which,nrec,V(1,0,ip))
0283  1                 if (.not.OK()) goto 234
0284  1                 if (YES('Done')) goto 238
0285  1 237         continue
```

```
0286  1 238         continue
0287  1          else
0288  1              call SCANIV (0)              ! home scanivalve
0289  1              do 249 ip=0,maxip
0290  1                  if (.not.tap(ip)) goto 248
0291  1 242              type 243, ip
0292  1 243              format (/' <cr> for tap ',i2,' : '$)
0293  1                  call GETSTR (5,answer,1,err)
0294  1 244              call CHDATA (label,which,nrec,V(1,0,ip))
0295  1                  ip1 = IFIX((V(1,5,ip) - Oc(1,5) + 0.05)*Pc(4))
0296  1                  if (ip1.ne.ip) then
0297  1                      type *, '*** At tap #',ip1
0298  1                      if (ip1.lt.ip) then
0299  1                          do 245 n=1,ip-ip1
0300  1                              call SCANIV (1)
0301  1 245                      continue
0302  1                      else
0303  1                          call SCANIV (0) ! home first
0304  1                          if (ip.gt.0) then
0305  1                              do 247 n=1,ip
0306  1                                  call SCANIV (1)
0307  1 247                          continue
0308  1                          endif
0309  1                      endif
0310  1                      goto 244
0311  1                  endif
0312  1                  if (.not.OK()) goto 244
0313  1                  if (single) goto 300
0314  1 248              call SCANIV (1)              ! step scanivalve
0315  1 249          continue
0316  1          endif
0317               include     'PXD158.300/list'    ! process & type/store data
0318  1 c
0319  1 c ----- PXD158.300
0320  1 c
0321  1 c        17-Jun-87   V3.0 Compute offsets as a function of test section
0322  1 c                        Pressure
0323  1 c        16-Jun-87   V2.0 See 'c *****>' lines to use absolute
0324  1 c                        pressure transducer (see also PXD159.for).
0325  1 c
0326  1 c ----- Compute data through calibration matrix.
0327  1 c
0328  1 300      do 339 ip=0,maxip
0329  1              if (.not.tap(ip)) goto 339
0330  1              do 335 j=0,maxch
0331  1                  if (j.ge.2 .and. j.le.4) then
0332  1                      Y(j,ip) = 0.
0333  1                      do 333 jp=2,4
0334  1                          Y(j,ip)  = Y(j,ip) + (V(1,jp,ip)
0335  1      #                       - Oc(1,j) - Oc(2,j)*Y(1,ip))*Fc(jp-1,j-1)
0336  1 333                  continue
0337  1                  else if (j.eq.5) then
0338  1                      Y(j,ip) = ip
0339  1                  else
0340  1                      jp = j+1
0341  1                      if (j.eq.6) jp = 3
0342  1                      Y(j,ip) = (V(1,j,ip) - Oc(1,j))*Pc(jp)
```

```
0343  1                 endif
0344  1 335           continue
0345  1 339       continue
0346  1 c
0347  1 c         Compute reduced (mean) values
0348  1 c
0349  1 340       n = 0
0350  1           do 343 j=0,maxch
0351  1               Ym(j) = 0.
0352  1 343       continue
0353  1           do 347 ip=0,maxip
0354  1               if (.not.tap(ip)) goto 347
0355  1               n = n + 1
0356  1               do 345 j=0,maxch
0357  1                   if (j.ge.2 .and. j.le.4) then
0358  1                       Ym(j) = Ym(j) + Y(j,ip)/Y(1,ip)      ! for force coeffs
0359  1                   else
0360  1                       Ym(j) = Ym(j) + Y(j,ip)
0361  1                   endif
0362  1 345           continue
0363  1 347       continue
0364  1           do 349 j=0,maxch
0365  1               Ym(j) = Ym(j)/n
0366  1 349       continue
0367  1 c
0368  1 c         Note that tunnel speed manometer is Hg over water, whereas
0369  1 c         this conversion is with respect to true differential pressure
0370  1 c         [difference of SQRT(13.6/12.6) = 1.0389].
0371  1 c
0372  1           if (Ym(1).ge.0) then
0373  1              Vt    = 12.1062*SQRT(Ym(1))   ! Tunnel velocity [ft/s]
0374  1           else
0375  1              Vt    = 0.0                   ! Tunnel velocity [ft/s]
0376  1           endif
0377  1           Vt2   = Vt**2
0378  1           Pta   = Ym(0)                   ! Test section abs. press. [psiA]
0379  1       #                 + Pap             ! comment this line out for
0380  1 c *****>                                 ! absolute test section pressure
0381  1 c *****>                                 ! transducer
0382  1           do 363 j=1,3
0383  1               jp     = j+1
0384  1               Cf(j)  = 2.81449E-2*Ym(jp)          ! Force  coeffs
0385  1               Ym(jp) = 2.42501E-1*Cf(j)*Vt2       ! Forces
0386  1 363       continue
0387  1           Cf(3) = 2.*Cf(3)                ! Moment about mid-chord [c=.5']
0388  1 c
0389  1 c         Note that whereas the tap pressures are retained as
0390  1 c         absolute numbers (Dpsi) the pressure coefficients are
0391  1 c         computed with velocity fluctuations normalized out.
0392  1 c
0393  1 c         Note also that the factor premultiplying Y(6,ip)/Y(1,ip)
0394  1 c         ratio includes the 12.6/13.6 density ratio factor.
0395  1 c
0396  1           ipp = -1                        ! tap press. coeffs
0397  1           do 377 ip=0,maxip
0398  1               if (.not.tap(ip)) goto 377
0399  1               ipp = ipp + 1
```

```
0400  1            XY(1,ipp) = ABS(Xt(ip))
0401  1            XY(2,ipp) = - 1.01319*Y(6,ip)/Y(1,ip) ! pressure coefficient
0402  1 377      continue
0403  1 c
0404  1 380      write (iu2,381) ((which(i,jp),i=1,7),jp=0,6)
0405  1 381      format (/14x,7(2x,7a1))
0406  1 _        do 385 ip=0,maxip
0407  1            if (.not.tap(ip)) goto 385
0408  1            write (iu2,382) ip,(label(i,1),i=1,4),(V(1,j,ip),j=0,6)
0409  1 382        format (i3,2x,4a1,4x,7(f9.4))
0410  1            write (iu2,383)    (label(i,2),i=1,4),(V(2,j,ip),j=0,6)
0411  1 383        format (5x,4a1,4x,7(f9.4))
0412  1 385      continue
0413  1          if (iu2.eq.5) call PROMPT ('<cr> for reduced data',string,1)
0414  1          write (iu2,386) ((units(i,j),i=1,5),j=0,maxch)
0415  1 386      format (/12x,7(4x,5a1))
0416  1          do 388 ip=0,maxip
0417  1            if (.not.tap(ip)) goto 388
0418  1            write (iu2,387) ip,(Y(j,ip),j=0,maxch)
0419  1 387        format (i3,8x,7f9.2)
0420  1 388      continue
0421  1          write (iu2,389) (Ym(j),j=0,maxch)
0422  1 389      format (/' Averages  ',7f9.2)
0423  1          write (iu2,391) (Ym(j+1),Cf(j),j=1,3)
0424  1 391      format (/
0425  1      #       ' Lift    = ',f6.2,' lbs,      CL = ',f6.3/
0426  1      #       ' Drag    = ',f6.2,' lbs,      CD = ',f6.3/
0427  1      #       ' Moment = ',f6.2,' ft-lbs,  CM = ',f6.3)
0428  1          write (iu2,393) Ym(0),Pta,Ym(1),Vt
0429  1 393      format (
0430  1      #       ' Pt      = ',f6.2,' psiG         = ',f5.2,' psiA'/
0431  1      #       ' Pv      = ',f6.2,' Dpsi,     Vt = ',f5.2,' ft/s')
0432  1          write (iu2,395)
0433  1 395      format (10x,' Tap       x/c          psi      -Cp')
0434  1          ipp = -1
0435  1          do 399 ip=0,maxip
0436  1            if (.not.tap(ip)) goto 399
0437  1            ipp = ipp+1
0438  1            write  (iu2,397) ip,XY(1,ipp),Y(6,ip),XY(2,ipp)
0439  1 397        format (10x,i3,5x,f7.3,3x,f9.2,f10.3)
0440  1 399      continue
0441  1          if (iu2.eq.2) goto 900
0442            include     'PXD158.400/list'   ! main run menu
0443  1 c
0444  1 c ----- PXD158.400: Now what?
0445  1 c
0446  1 400      type 401
0447  1 401      format (/
0448  1      #       ' Enter  L to (re)list measurements'/
0449  1      #       '        P to plot pressure coefficients'/
0450  1      #       '        R to repeat a pressure tap measurement'/
0451  1      #       '        N for next run'/
0452  1      #       '        E to exit program                  : '$)
0453  1          call GETSTR (5,answer,1,err)
0454  1          call UPCASE (answer)
0455  1          if (answer(1).eq.'L') goto 380
0456  1          if (answer(1).eq.'R') then
```

```
0457  1 410          ip = IVAR('pressure tap #')
0458  1              if (ip.lt.0 .or. ip.gt.maxip) goto 410
0459  1              if (.not.tap(ip)) tap(ip) = .true.
0460  1              single =.true.
0461  1              goto 242
0462  1          else if (answer(1).eq.'N' .or. answer(1).eq.'E') then
0463  1              iu2 = 2
0464  1              goto 380
0465  1          else if (answer(1).eq.'P') then
0466  1              nplt = nplt + 1
0467  1              call PLOTLB (7,datfle)
0468  1              encode (80,461,string) nrun,null
0469  1 461          format ('Run ',i3,a1)
0470  1              call PLOTLB (4,string)
0471  1              encode (80,463,string) nplt,null
0472  1 463          format ('Plot ',i2,a1)
0473  1              call PLOTLB (3,string)
0474  1              call XYPSCL (ntaps,XY(1,0))
0475  1              call PLTEND (-1,'x/c;-C}p(x/c)')
0476  1              if (tap(0)) then
0477  1                  call XYPLOT (2,1,XY(1,0))
0478  1                  call XYPLOT (3,ntop,XY(1,1))
0479  1              else
0480  1                  call XYPLOT (3,ntaps,XY(1,0))
0481  1              endif
0482  1              if (XYlim(2,1).lt.0.) call XYPLOT (-1,2,XYz) ! zero line
0483  1              call PLTDVC (10)             ! end plot
0484  1          endif
0485  1          goto 400
0486      c
0487      c Any post-run comments?
0488      c
0489      900     call COMENT (string)
0490              call PUTSTR (2,'EOR',' ',err)
0491              if (answer(1).eq.'N') then
0492                  nrun = nrun + 1
0493                  write (5,201) nrun
0494                  goto 200                    ! get next run data
0495              endif
0496              call PUTSTR (2,'EOF',' ',err)   ! close output data file
0497              close (unit=2)
0498              call PUTSTR (5,' ',' ',err)
0499              call MERGE  ('*** closing ',datfle,string,80)
0500              call PUTSTR (5,string,' ',err)
0501              call EXIT
0502              end
```

PROGRAM SECTIONS

	Name	Bytes	Attributes
0	$CODE	3439	PIC CON REL LCL SHR EXE RD NOW
1	$PDATA	1772	PIC CON REL LCL SHR NOEXE RD NOW
2	$LOCAL	3200	PIC CON REL LCL NOSHR NOEXE RD W
3	DEVCOM	16	PIC OVR REL GBL SHR NOEXE RD W
4	PLTCOM	24	PIC OVR REL GBL SHR NOEXE RD W
5	SYMCOM	8	PIC OVR REL GBL SHR NOEXE RD W
	Total Space Allocated	8459	

ENTRY POINTS

Address	Type	Name
0-00000000		PXD158

VARIABLES

Address	Type	Name	Address	Type	Name	Address	Type
**	R*4	AIR	**	R*4	ANGLE	2-000006D3	L*1
2-000006D8	I*4	IP	**	I*4	IP1	**	I*4
**	I*4	J	**	I*4	JP	**	I*4
2-000006F4	I*4	NPLT	2-000006DC	I*4	NREC	2-000006EC	I*4
2-000006E8	I*4	NTOP	**	L*1	NULL	**	R*4
**	R*4	PTA	**	R*4	PTG	**	R*4
**	R*4	PVH	2-000006D4	L*1	SINGLE	**	R*4
**	R*4	VT2	**	R*4	VTH		

ARRAYS

Address	Type	Name	Bytes	Dimensions
2-000005BC	L*1	ANSWER	2	(2)
2-00000000	R*4	CF	12	(3)
2-000005BE	L*1	CLBFLE	16	(16)
2-000005DE	L*1	DATFLE	11	(11)
2-000005CE	L*1	DATSTR	16	(16)
3-00000000	R*4	FACTOR	8	(2)
2-0000000C	R*4	FC	36	(3, 3)
2-000005E9	L*1	LABEL	12	(6, 2)
2-00000030	R*4	OC	56	(2, 0:6)
2-000005F5	L*1	OFFFLE	16	(16)
3-00000008	R*4	OFFSET	8	(2)
2-00000068	R*4	PC	16	(4)
4-00000000	R*4	PLOTSZ	8	(2)
2-00000605	L*1	STRING	81	(81)
5-00000000	R*4	SYMSIZ	8	(2)
2-00000656	L*1	TAP	13	(0:12)
2-00000663	L*1	UNITS	56	(8, 0:6)
2-00000078	R*4	V	728	(2, 0:6, 0:12)

2-00000350	R*4	VDATA	56	(2, 0:6)
2-0000069B	L*1	WHICH	56	(8, 0:6)
2-00000388	R*4	XT	52	(0:12)
2-000003BC	R*4	XY	104	(2, 0:12)
4-00000008	R*4	XYLIM	16	(2, 2)
2-00000424	R*4	XYZ	16	(2, 2)
2-00000434	R*4	Y	364	(0:6, 0:12)
2-000005A0	R*4	YM	28	(0:6)

LABELS

Address	Label	Address	Label	Address	Label	Address	Label
0-000000D4	10	1-00000233	11′	1-00000264	13′	**	19
**	102	1-0000026E	103′	**	109	0-0000024C	110
1-000002AE	121′	0-00000344	160	1-00000326	161′	**	163
**	169	0-0000043C	200	1-000003CD	201′	**	206
1-0000040F	211′	1-00000441	213′	1-00000473	233′	0-000005DC	234
0-00000B1C	242	1-0000048D	243′	0-00000B4C	244	**	245
**	249	0-00000634	300	**	333	**	335
**	343	**	345	0-0000074D	347	**	349
**	380	1-000004A7	381′	1-000004B6	382′	1-000004C9	383′
1-000004E9	387′	0-00000988	388	1-000004F3	389′	1-00000507	391′
1-000005F4	397′	0-00000AA6	399	**	400	1-00000606	401′
1-000006E0	463′	0-00000CF8	900				

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name	Type	Name	Type	Name
	CALIBR		CHDATA		COMENT		FOR$CLOSE
	FOR$OPEN		GETSTR	I*4	INDEX	I*4	IVAR
R*4	MTH$SQRT	L*1	OK		PLOTLB		PLTDVC
	PUTSTR	R*4	RVAR		SCANIV		UPCASE
L*1	YES						

```
0001
0002            subroutine  COMENT (string)
0003            byte        string(1)
0004    c
0005            call MERGE  ('* ',string,80)
0006    100     call PROMPT ('notes/comments',string(3),78)
0007            call PUTSTR (2,string,' ',err)
0008            if (string(3).ne.0) goto 100
0009            return
0010            end
```

PROGRAM SECTIONS

	Name	Bytes	Attributes
0	$CODE	72	PIC CON REL LCL SHR EXE RD NO
1	$PDATA	32	PIC CON REL LCL SHR NOEXE RD NO
2	$LOCAL	100	PIC CON REL LCL NOSHR NOEXE RD
	Total Space Allocated	204	

ENTRY POINTS

Address	Type	Name
0-00000000		COMENT

VARIABLES

Address	Type	Name
2-00000000	R*4	ERR

ARRAYS

Address	Type	Name	Bytes	Dimensions
AP-00000004@	L*1	STRING	1	(1)

LABELS

Address	Label
0-00000028	100

COMENT 9-Feb-1988 14:21:54
9-Feb-1988 14:21:47

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name	Type	Name
	MERGE		PROMPT		PUTSTR

COMMAND QUALIFIERS

FOR/EXT/NOOBJ PXD158/LIST

/CHECK=(NOBOUNDS,OVERFLOW,NOUNDERFLOW)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/STANDARD=(NOSYNTAX,NOSOURCE_FORM)
/SHOW=(NOPREPROCESSOR,NOINCLUDE,MAP,NODICTIONARY,SINGLE)
/WARNINGS=(GENERAL,NODECLARATIONS)
/CONTINUATIONS=19 /NOCROSS_REFERENCE /NOD_LINES /EXTEND_SOURCE /F77
/NOG_FLOATING /I4 /NOMACHINE_CODE /OPTIMIZE

COMPILATION STATISTICS

Run Time:	14.40 seconds
Elapsed Time:	15.21 seconds
Page Faults:	974
Dynamic Memory:	713 pages

APPENDIX A.2 [PXD163] Data processing program listing

```
0001    c [hydro.shen]PXD163.for
0002    c
0003    c Young Shen Jun-87 test, HSWT processing acquisition program.
0004    c PXD158 derivative.
0005    c
0006    c       A/D channel     Input
0007    c       -----------     ---------------------------------------
0008    c       Ch0:            Test section gauge pressure (Validyne)
0009    c                       Note changes in PXD163.for & PXD163.300 if
0010    c                       Using absolute test section press. Xducer
0011    c       Ch1:            Tunnel velocity Diff. pressure (Druck)
0012    c       Ch2:            Lift   cell
0013    c       Ch3:            Drag   cell
0014    c       Ch4:            Moment cell
0015    c       Ch5:            Scanivalve position voltage
0016    c       Ch6:            Scanivalve port pressure tap transducer (Druck)
0017    c
0018            program     PXD163
0019    c
0020            common      /devcom/ Factor(2),Offset(2),Chsize(2)
0021            common      /pltcom/ Plotsz(2),XYlim(2,2)
0022            common      /symcom/ Symsiz(2)
0023    c
0024            parameter   (maxch=6)           ! max{j} [ j=channel #]
0025            parameter   (maxch1=maxch+1)
0026            parameter   (maxip=12)          ! max{ip}
0027            parameter   (maxip1=maxip+1)
0028    c
0029            dimension   Air(2)              ! Data/Tare air content     [ml/lt]
0030            dimension   Angle(2)            ! Data/Tare angle of attack
0031            byte        buffer(81)          ! string buffer
0032            real*4      Cf(3,2)             ! Force coefficients
0033            byte        clbfle(16)          ! calibration file
0034            dimension   Data(0:7)           ! general purpose data buffer
0035            byte        datstr(16) /16*0/   ! run date string
0036            byte        err                 ! error flag
0037            real*4      Fc(3,3)             ! force balance calibration matrix
0038            byte        ff(2) /12,0/        ! form_feed
0039            byte        dfile_prefix(7)     ! data file prefix
0040            integer*2   INDEX, LEN          ! HDRLIB
0041            external    INDEX, LEN
0042            byte        inpfle(11)          ! input  data file name
0043            integer*2   ISVARS              ! PXDLIB
0044            byte        label(6,2)
0045            integer     nrun(2) /2*0/       ! Data/tare run number
0046    c                   ntaps               ! total # of taps measured
0047            byte        null /0/
0048            byte        offfle(16)          ! offset calibration file
0049            real*4      Oc(2,0:maxch,2)     ! Offset & slope calibration buffer
0050            byte        outfle(11)          ! output data file name
0051            dimension   Pah(2)              ! Data/Tare Ambient pressure [ftHgA]
0052            dimension   Pap(2)              ! Data/Tare Ambient pressure [psiA]
0053            real*4      Pc(4)
0054    c                   Pc(j),j=1,3           Pressure transducer calibrations
0055    c                   Pc(4)                 PVport calibration factor
0056            logical     pltfle /.false./
0057            dimension   Pta(2)              ! Data/Tare Tunnel  pressure [psiA]
```

```
0058            dimension   Ptg(2)              ! Data/Tare Tunnel  pressure [psiG]
0059            dimension   Pth(2)              ! Data/Tare Tunnel  pressure [ftHgA]
0060            dimension   Pv(2)
0061            dimension   Pvh(2)              ! Data/Tare Tunnel  speed    [ftHgW]
0062            dimension   Sign(3)             ! Lift/Drag/Moment Tare signs
0063            data        Sign /-1., 1., -1./
0064            byte        string(81)          ! string buffer
0065            byte        strout(81)          ! string buffer
0066            logical     tap(0:maxip,2)      ! this tap measured?
0067            byte        tarfle(16)          ! tare data file
0068            byte        tfile_prefix(7)     ! tare file prefix
0069    c
0070    c Code                              ip
0071    c -------------------------     ------
0072    c Starting offsets                  -1
0073    c model tap pressures             0 - 12
0074    c ending offsets                    13
0075    c
0076            dimension   Tw(2)               ! Data/Tare water temp.      [deg.C]
0077            byte        units(8,0:maxch)
0078            real*4      V(2,0:maxch,0:maxip)
0079    c                   V(1,j,ip)           ! mean
0080    c                   V(2,j,ip)           ! rms
0081            dimension   Vth(2)              ! Data/Tare Tunnel  speed    [ft/s]
0082            byte        which(8,0:maxch)
0083            real*4      Xt(0:maxip)
0084            real*4      XY(2,0:maxip)       ! tap position and Cp
0085            real*4      XYz(2,2)
0086            data        XYz / 0.0, 0.0,     ! zero line on plot
0087        #                       1.0, 0.0/
0088            real*4      Y(0:maxch,0:maxip,2)! reduced data
0089            real*4      Ym(0:maxch,2)       ! average reduced data
0090    c
0091            include     'PXD159.for/list'   ! set 'label', 'which' & 'units' str
0092  1 c       PXD159.for
0093  1 c
0094  1 c       'label', 'which' & 'units definitions'
0095  1 c
0096  1 c                     1234567
0097  1         call MERGE ('mean'  ,label(1,1),5)
0098  1         call MERGE ('rms '  ,label(1,2),5)
0099  1 c
0100  1         call MERGE ('GPtest ',which(1,0),7)     ! use next line for absolute
0101  1 c ***** call MERGE ('APtest ',which(1,0),7)     ! test section press. Xducer
0102  1         call MERGE ('DPvel  ',which(1,1),7)
0103  1         call MERGE ('Lift   ',which(1,2),7)
0104  1         call MERGE ('Drag   ',which(1,3),7)
0105  1         call MERGE ('Moment ',which(1,4),7)
0106  1         call MERGE ('PVport ',which(1,5),7)
0107  1         call MERGE ('DPport ',which(1,6),7)
0108  1 c
0109  1         call MERGE ('psiG ' ,units(1,0),7)      ! use next line for absolute
0110  1 c ***** call MERGE ('psiA ' ,units(1,0),7)      ! test section press. Xducer
0111  1         call MERGE ('Dpsi ' ,units(1,1),7)
0112  1         call MERGE ('lb   ' ,units(1,2),7)
0113  1         call MERGE ('lb   ' ,units(1,3),7)
0114  1         call MERGE ('ft-lb' ,units(1,4),7)
```

```
0115  1          call MERGE ('tap #' ,units(1,5),7)
0116  1          call MERGE ('Dpsi ' ,units(1,6),7)
0117             call DATE   (datstr)              ! get system date
0118    c
0119             open (unit=4,                     ! get pressure tap locations
0120          #     file='YTS027.dat',type='old', readonly,
0121          #     form='formatted',access='sequential')
0122    10       call GETSTR (4,string,80,err)
0123             if (INDEX(string,'---').eq.0) goto 10
0124             type 11
0125    11       format (///,' Pressure tap locations:'//20x,' Tap     x/c'/)
0126             do ip1=0,maxip
0127                read (4,*,err=20) ip,Xt(ip)
0128                type 13, ip,Xt(ip)
0129    13          format (20x,i3,5x,f5.2)
0130             enddo
0131    20       close (unit=4)
0132    c
0133    c Get data, offset, calibration & tare data files
0134    c
0135             include   'PXD163.100/list'
0136  1 c
0137  1 c PXD163.100
0138  1 c
0139  1 c Get data file name
0140  1 c
0141  1 100      call PROMPT ('Enter input data file prefix',dfile_prefix,6)
0142  1          call UPCASE (dfile_prefix)
0143  1 c
0144  1 c Open input data file                   ! unit 2
0145  1 c
0146  1          call MERGE  (dfile_prefix, '.D01', inpfle, 10)
0147  1          open (unit=2, file=inpfle, type='OLD', readonly,
0148  1       #      form='FORMATTED', access='SEQUENTIAL', err=100)
0149  1 c
0150  1 c Open output data file                  ! unit 3
0151  1 c
0152  1          call MERGE  (dfile_prefix, '.D03', outfle, 10)
0153  1          open (unit=3, file=outfle, type='NEW', carriagecontrol='list',
0154  1       #      form='FORMATTED', access='SEQUENTIAL')
0155  1          call MERGE  (outfle, '    ', datstr, string,80)
0156  1          call PUTSTR (3,string,' ',err)          ! label output file
0157  1          call PUTSTR (5,string,' ',err)
0158  1 c
0159  1 c Open tare data file                    ! unit 8
0160  1 c
0161  1 102      call PROMPT ('Enter tare  data file prefix',tfile_prefix,6)
0162  1          call UPCASE (tfile_prefix)
0163  1          call MERGE  (tfile_prefix, '.DAT', tarfle, 10)
0164  1          open (unit=8, file=tarfle, type='OLD', readonly,
0165  1       #      form='FORMATTED', access='SEQUENTIAL', err=102)
0166  1 c
0167  1 c Start reading data file
0168  1 c
0169  1          iuin = 2
0170  1          k    = 1
0171  1 c
```

```
0172  1 110     call GETSTR (iuin,string,80,err)        ! read first line
0173  1         i1 = INDEX(string,'.D01')
0174  1         if (i1.ne.0) then
0175  1             do i=i1+5,LEN(string)
0176  1                 string(i) = string(i+1)
0177  1             enddo
0178  1         endif
0179  1         call PUTSTR (3,string,' ',err)
0180  1         call PUTSTR (5,string,' ',err)
0181  1         if (k.eq.1 .and. INDEX(string,inpfle).eq.0) then
0182  1             call MERGE  (dfile_prefix, '.DAT', inpfle, 10)
0183  1             close (unit=2)
0184  1             open  (unit=2, file=inpfle, type='OLD', readonly,
0185  1      #          form='FORMATTED', access='SEQUENTIAL', err=100)
0186  1         endif
0187  1         if (INDEX(inpfle,'.D01').ne.0) then
0188  1             do line=1,2
0189  1                 call GETSTR (2,string,80, err)
0190  1                 call PUTSTR (3,string,' ',err)
0191  1                 call PUTSTR (5,string,' ',err)
0192  1             enddo
0193  1         endif
0194  1 c
0195  1 c Get Offset & Calibration file names
0196  1 c
0197  1 114     call GETSTR (iuin,string,80,err)
0198  1         call PUTSTR (3,string, 0,err)
0199  1         call PUTSTR (5,string, 0,err)
0200  1         call UPCASE (string)
0201  1         i1 = INDEX (string,'.OFF')
0202  1         if (i1.eq.0) then
0203  1             goto 114
0204  1         else
0205  1             i1 = i1 - 6
0206  1             call MERGE (string(i1),offfle,10)
0207  1             if (k.eq.1) then
0208  1                 i1 = INDEX (string,'.CLB')
0209  1                 if (i1.eq.0) STOP 'Cannot find *.CLB file name'
0210  1                 i1 = i1 - 6
0211  1                 call MERGE (string(i1),clbfle,10)
0212  1             endif
0213  1         endif
0214  1 c
0215  1 120     open (unit=4,file=offfle,type='OLD',readonly,
0216  1      #      form='FORMATTED',access='SEQUENTIAL',err=100)
0217  1 c
0218  1 122     call GETSTR (4,string,80,err)
0219  1         call PUTSTR (5,string, 0,err)
0220  1         if (INDEX(string,'GPtest').eq.0) goto 122
0221  1 c
0222  1 c Oc(1,j,k) = Offset vector calibration at 0 gauge pressure
0223  1 c Oc(2,j,k) = Offset vector slope [Volts/psiG]
0224  1 c
0225  1         do m=1,2
0226  1             read  (4,123) (string(i),i=1,10),(Oc(m,j,k),j=0,maxch)
0227  1 123         format (x,10a1,3x,7f9.5)
0228  1             type 123,     (string(i),i=1,10),(Oc(m,j,k),j=0,maxch)
```

```
0229  1          enddo
0230  1          close (unit=4)
0231  1          if (k.eq.1) call CALIBR (clbfle,string,Fc,Pc)
0232  1 c
0233  1 130      call GETSTR (iuin,string,80,err)
0234  1          call PUTSTR (3,string, 0,err)
0235  1          call PUTSTR (5,string, 0,err)
0236  1          i1 = INDEX(string,':')
0237  1          if (i1.eq.0) goto 130
0238  1          if (ISVARS(string(i1+1),1,Pah(k),i0).ne.1)
0239  1      #           STOP 'Cannot find Pah'                  ! ftHgA
0240  1          Pap(k) = 5.89385*Pah(k)                        ! psiA
0241  1 c
0242  1 132      call GETSTR (iuin,string,80,err)
0243  1          call PUTSTR (3,string, 0,err)
0244  1          call PUTSTR (5,string, 0,err)
0245  1          i1 = INDEX(string,':')
0246  1          if (i1.eq.0) goto 132
0247  1          if (ISVARS(string(i1+1),1,Tw(k),i0).ne.1)
0248  1      #       STOP 'Cannot find Tw'                      ! degC
0249  1 c
0250  1 134      call GETSTR (iuin,string,80,err)
0251  1          call PUTSTR (3,string, 0,err)
0252  1          call PUTSTR (5,string, 0,err)
0253  1          i1 = INDEX(string,':')
0254  1          if (i1.eq.0) goto 134
0255  1          if (ISVARS(string(i1+1),1,Air(k),i0).ne.1)
0256  1      #       STOP 'Cannot find Air content'             ! ml/lt
0257  1 c
0258 C1 d        type 141, Pah(k),Pap(k),Tw(k),Air(k)
0259 C1 d141     format (/
0260 C1 d    #       ' Ambient pressure  : ',f7.3,' ft HgA,  = ',f5.2,' psiA'/
0261 C1 d    #       ' Water temperature : ',f6.2,'  C'/
0262 C1 d    #       ' Water air content : ',f6.2,'  ml/lt')
0263  1 c
0264  1          if (k.eq.1) then
0265  1              call PUTSTR (3,' ',' ',err)
0266  1              call PUTSTR (3,' ',' ',err)
0267  1              iuin = 8
0268  1              k    = 2
0269  1              goto 110
0270  1          endif
0271  1          iuin = 2
0272  1          k    = 1
0273    c
0274    200      continue
0275             include     'PXD163.200/list'          ! get run data
0276  1 c
0277  1 c PXD163.200: Get run data                       ! PXD158.200 derivative
0278  1 c
0279  1 202      call GETSTR (iuin,string,80,err)
0280  1          if (INDEX(string,'EOF').ne.0) then
0281  1              if (k.eq.2) then
0282  1                  call MERGE (string,' ',tarfle,strout,80)
0283  1                  call PUTSTR (3,strout, 0,err)
0284  1                  call PUTSTR (5,strout, 0,err)
0285  1                  close (unit=8)
```

```
0286  1              endif
0287  1              call MERGE (string,' ',outfle,strout,80)
0288  1              call PUTSTR (3,strout, 0,err)
0289  1              call PUTSTR (5,strout, 0,err)
0290  1              close (unit=3)
0291  1              call PLTDVC (9)
0292  1              call PLTDVC (-2)
0293  1              call EXIT
0294  1          endif
0295  1          i1 = INDEX(string,'Run number')
0296  1          if (k.eq.1) then
0297  1              if (i1.eq.0) then
0298  1                  call PUTSTR (3,string, 0,err)
0299  1                  call PUTSTR (5,string, 0,err)
0300  1                  goto 202
0301  1              else
0302  1                  do iuout = 3,-2,-5
0303  1                      call PUTSTR (iuout,ff,' ',err)
0304  1                      call MERGE  (outfle,' - Continued',strout,80)
0305  1                      call PUTSTR (iuout,strout,' ',err)
0306  1                      call PUTSTR (iuout,' ',' ',err)
0307  1                      call PUTSTR (iuout,string,0,err)
0308  1                  enddo
0309  1              endif
0310  1          else                                    ! search for proper tare run
0311  1              if (i1.eq.0) goto 202
0312  1              call GETSTR (8,buffer,80,err)
0313  1              if (ISVARS(buffer(INDEX(buffer,'for run')+7),1,Data,i0).ne.1)
0314  1       #          STOP 'Cannot find nrun'
0315  1              if (IFIX(Data(0)).ne.nrun(1)) goto 202
0316  1              do iuout=3,-2,-5
0317  1                  call PUTSTR (iuout,ff,' ',err)
0318  1                  call MERGE  (outfle,' - Continued',strout,80)
0319  1                  call PUTSTR (iuout,strout,' ',err)
0320  1                  call PUTSTR (iuout,' ',' ',err)
0321  1                  call PUTSTR (iuout,string,0,err)
0322  1                  call PUTSTR (iuout,buffer,0,err)
0323  1              enddo
0324  1          endif
0325  1          if (ISVARS(string(INDEX(string,':')+1),1,Data,i0).ne.1)
0326  1       #        STOP 'Cannot find nrun'
0327  1          nrun(k) = IFIX(Data(0))          ! get run id #
0328 C1 d          type 203, nrun(k)
0329 C1 d203       format (
0330 C1 d     #       ' Run number        : ',i4,'    ***')
0331  1 c
0332  1 210        call GETSTR (iuin,string,80,err)
0333  1            call PUTSTR (3,string, 0,err)
0334  1            call PUTSTR (5,string, 0,err)
0335  1            i1 = INDEX(string,':')
0336  1            if (i1.eq.0) goto 210
0337  1            if (ISVARS(string(i1+1),1,Angle(k),i0).ne.1)
0338  1       #       STOP 'Cannot find Angle'
0339 C1 d          type 211, Angle(k)
0340 C1 d211       format (
0341 C1 d     #       ' Angle of attack   : ',f7.2,'    ***')
0342  1 c
```

```
0343  1 220      call GETSTR (iuin,string,80,err)
0344  1          call PUTSTR (3,string, 0,err)
0345  1          call PUTSTR (5,string, 0,err)
0346  1          i1 = INDEX(string,'=')
0347  1          if (i1.eq.0) goto 220
0348  1          if (ISVARS(string(i1+1),1,Pth(k),i0).ne.1)
0349  1       #      STOP 'Cannot find Pth'              ! psiA
0350  1 c
0351  1 c Note that Pth is ft of Hg/air column.
0352  1 c
0353  1          Pta(k) = 5.89385*Pth(k)
0354  1          Ptg(k) = Pta(k) - Pap(k)               ! psiG
0355 C1 d        type 221, Pth(k),Pta(k)
0356 C1 d221     format (
0357 C1 d     #      ' Tunnel pressure   = ',f8.3,' ftHgA   = ',f5.2,' psiA','    ***')
0358  1 c
0359  1 222      call GETSTR (iuin,string,80,err)
0360  1          call PUTSTR (3,string, 0,err)
0361  1          call PUTSTR (5,string, 0,err)
0362  1          i1 = INDEX(string,'=')
0363  1          if (i1.eq.0) goto 222
0364  1          if (ISVARS(string(i1+1),1,Pvh(k),i0).ne.1)
0365  1       #      STOP 'Cannot find Pvh'              ! ftHgW
0366  1 c
0367  1 c Note that Pvh is ft of Hg/water column.
0368  1 c
0369  1          Pv(k) = 5.89385*Pvh(k)/1.07937
0370  1          if (Pvh(k) .ge. 0.) then
0371  1              Vth(k) = 28.29*SQRT(Pvh(k))        ! Tunnel calibration formula
0372  1          else
0373  1              Vth(k) = 0.0
0374  1          endif
0375 C1 d        type 223, Pvh(k),Vth(k)
0376 C1 d223      format (
0377 C1 d     #      ' Speed manometer   = ',f8.3,' ftHgW   = ',f5.2,' ft/s','    ***')
0378               include     'PXD163.300/list'        ! Process, type & store data
0379  1 c
0380  1 c PXD163.300
0381  1 c
0382  1 c Read run data
0383  1 c
0384  1 300      call GETSTR (iuin,string,80,err)
0385  1          call PUTSTR (3,string,0, err)
0386  1          call PUTSTR (5,string,0, err)
0387  1          if (INDEX(string,'GPtest').eq.0) goto 300
0388  1          call PUTSTR (3,' ',' ',err)
0389  1          do ip=0,maxip
0390  1              tap(ip,k) = .false.
0391  1          enddo
0392  1          do ip1=0,maxip
0393  1              call GETSTR (iuin,string,80,err)
0394  1              if (LEN(string).lt.10) goto 310
0395  1              call ISVARS (string,1,Data,i0)
0396  1              ip = IFIX(Data(0))
0397  1              call ISVARS (string(10),7,Data,i0)
0398  1              do j=0,6
0399  1                  V(1,j,ip) = Data(j)
```

```
0400  1              enddo
0401  1              write (3,301) ip,(V(1,j,ip),j=0,6)
0402  1              type     301, ip,(V(1,j,ip),j=0,6)
0403  1 301          format (i3,10x,7(f9.4))
0404  1 c
0405  1              call GETSTR (iuin,string,80,err)
0406  1              call ISVARS (string(10),7,Data,i0)
0407  1              do j=0,6
0408  1                  V(2,j,ip) = Data(j)
0409  1              enddo
0410  1              write (3,303)     (V(2,j,ip),j=0,6)
0411  1              type     303,     (V(2,j,ip),j=0,6)
0412  1 303          format (13x,7(f9.4))
0413  1              tap(ip,k) = .true.
0414  1          enddo
0415  1 c
0416  1 c Read no more input file data except comment lines
0417  1 c
0418  1 310      do ip=0,maxip
0419  1              if (tap(ip,k)) then
0420  1                  do j=0,maxch
0421  1                      if (j.ge.2 .and. j.le.4) then
0422  1                          Y(j,ip,k) = 0.
0423  1                          do jp=2,4
0424  1                              Y(j,ip,k)  = Y(j,ip,k) + (V(1,jp,ip)
0425  1     #                            - Oc(1,j,k) - Oc(2,j,k)*Y(1,ip,k))*Fc(jp-1,j
0426  1                          enddo
0427  1                      elseif (j.eq.5) then
0428  1                          Y(j,ip,k) = ip
0429  1                      else
0430  1                          jp = j+1
0431  1                          if (j.eq.6) jp = 3
0432  1                          Y(j,ip,k) = (V(1,j,ip) - Oc(1,j,k))*Pc(jp)
0433  1                      endif
0434  1                  enddo
0435  1              endif
0436  1          enddo
0437  1 c
0438  1 c        Compute reduced (mean) values
0439  1 c
0440  1 340      n = 0
0441  1          do j=0,maxch
0442  1              Ym(j,k) = 0.
0443  1          enddo
0444  1          do 347 ip=0,maxip
0445  1              if (.not.tap(ip,k)) goto 347
0446  1              n = n + 1
0447  1              do 345 j=0,maxch
0448  1                  if (j.ge.2 .and. j.le.4) then
0449  1                      Ym(j,k) = Ym(j,k) + Y(j,ip,k)/Y(1,ip,k) ! for force Cfs
0450  1                  else
0451  1                      Ym(j,k) = Ym(j,k) + Y(j,ip,k)
0452  1                  endif
0453  1 345              continue
0454  1 347      continue
0455  1          do j=0,maxch
0456  1              Ym(j,k) = Ym(j,k)/n
```

```
0457  1          enddo
0458  1 c
0459  1 c        Note that tunnel speed manometer is Hg over water, whereas
0460  1 c        this conversion is with respect to true differential pressure
0461  1 c        [difference of SQRT(13.6/12.6) = 1.0389].
0462  1 c
0463  1          if (Ym(1,k).ge.0.) then
0464  1             Vt    = 12.1062*SQRT(Ym(1,k))  ! Tunnel velocity [ft/s]
0465  1          else
0466  1             Vt    = 0.0                    ! Tunnel velocity [ft/s]
0467  1          endif
0468  1          Vt2    = Vt**2
0469  1 c
0470  1 c Recompute test section absolute pressure using transducer data
0471  1 c
0472  1          Pta(k) = Ym(0,k)                ! Test section abs. press. [psiA]
0473  1      #          + Pap(k)                 ! comment this line out when using
0474  1 c *****>                                ! absolute test section pressure
0475  1 c *****>                                ! transducer
0476  1          do 353 j=1,3
0477  1              jp       = j+1
0478  1              Cf(j,k)  = 2.81449E-2*Ym(jp,k)          ! Force  coeffs
0479  1              Ym(jp,k) = 2.42501E-1*Cf(j,k)*Vt2       ! Forces
0480  1 353      continue
0481  1          Cf(3,k) = 2.*Cf(3,k)                ! Moment about mid-chord [c=.5']
0482  1 c
0483  1 c        Note that whereas the tap pressures are retained as
0484  1 c        absolute numbers (Dpsi) the pressure coefficients are
0485  1 c        computed with velocity fluctuations normalized out.
0486  1 c
0487  1 c        Note also that the factor premultiplying Y(6,ip,k)/Y(1,ip,k)
0488  1 c        ratio includes the 12.6/13.6 density ratio factor.
0489  1 c
0490  1          if (k.eq.1) then
0491  1              ipp = -1                        ! tap press. coeffs
0492  1              do ip=0,maxip
0493  1                  if (tap(ip,k)) then
0494  1                      ipp = ipp + 1
0495  1                      XY(1,ipp) = ABS(Xt(ip))
0496  1                      XY(2,ipp) = - 1.01319*Y(6,ip,k)/Y(1,ip,k)
0497  1                  endif
0498  1              enddo
0499  1              ntaps = ipp
0500  1          endif
0501  1          iuout = -2                      ! terminal output unit #
0502  1 c
0503  1 370      write  (iuout,371) ((units(i,j),i=1,5),j=0,maxch)
0504  1 371      format (//12x,7(4x,5a1)/)
0505  1          do ip=0,maxip
0506  1              if (tap(ip,k)) write  (iuout,372) ip,(Y(j,ip,k),j=0,maxch)
0507  1 372          format (i3,8x,7f9.2)
0508  1          enddo
0509  1          write  (iuout,373) (Ym(j,k),j=0,maxch)
0510  1 373      format (/' Averages  ',7f9.2/)
0511  1 c
0512  1          if (k.eq.1) then
0513  1              call PUTSTR (iuout,ff,' ',err)
```

```
0514  1            call MERGE  (outfle,'  Run ',strout,80)
0515  1            encode (80,'(i3,a1)',strout(LEN(strout)+1)) nrun(k), null
0516  1            call MERGE  (strout,'  -  Continued',strout,80)
0517  1            call PUTSTR (iuout,strout,' ',err)
0518  1         endif
0519  1         write  (iuout,'(//)')
0520  1         if (k.eq.1) then
0521  1            call PUTSTR (iuout,'Total Forces (including tare forces) :',' ',6
0522  1         else
0523  1            call PUTSTR (iuout,'Tare Forces :',' ',err)
0524  1         endif
0525  1         write  (iuout,374) (Ym(j+1,k),Cf(j,k),j=1,3)
0526  1 374     format (/
0527  1      #     10x,' Lift   = ',f6.2,' lbs,     CL = ',f6.3/
0528  1      #     10x,' Drag   = ',f6.2,' lbs,     CD = ',f7.4/
0529  1      #     10x,' Moment = ',f6.2,' ft-lbs,  CM = ',f6.3)
0530  1         write (iuout,375) Ym(0,k),Pta(k),Ym(1,k),Vt
0531  1 375     format (//' Tunnel Pressure & Velocity :'//
0532  1      #     10x,' Pt     = ',f6.2,' psiG        = ',f5.2,' psiA'/
0533  1      #     10x,' Pv     = ',f6.2,' Dpsi,    Vt = ',f5.2,' ft/s'/)
0534  1         if (k.eq.1) then
0535  1            write (iuout,376)
0536  1 376        format (//' Pressure tap data :'//
0537  1      #         10x,' Tap       x/c          psi      -Cp'/)
0538  1            ipp = -1
0539  1            do ip=0,maxip
0540  1               if (tap(ip,k)) then
0541  1                  ipp = ipp+1
0542  1                  write  (iuout,377) ip,XY(1,ipp),Y(6,ip,k),XY(2,ipp)
0543  1 377              format (10x,i3,5x,f7.3,3x,f9.2,f10.3)
0544  1               endif
0545  1            enddo
0546  1         endif
0547  1         if (iuout.eq.-2) then
0548  1            iuout = 3
0549  1            goto 370
0550  1         else
0551  1            iuout = -2
0552  1 390       call GETSTR (iuin,string,80,err)
0553  1            if (INDEX(string,'*').eq.0) goto 390
0554  1            call PUTSTR (3,' ',' ',err)
0555  1            call PUTSTR (5,' ',' ',err)
0556  1            call PUTSTR (3,string,0,err)
0557  1            call PUTSTR (5,string,0,err)
0558  1 c
0559  1 392       call GETSTR (iuin,string,80,err)
0560  1            call PUTSTR (3,string,0,err)
0561  1            call PUTSTR (5,string,0,err)
0562  1            if (INDEX(string,'EOR').eq.0) goto 392
0563  1         endif
0564               include     'PXD163.400/list'          ! Get tare data
0565  1 c
0566  1 c PXD163.400                                      ! Read tare data
0567  1 c
0568  1         if (k.eq.1) then
0569  1            iuin = 8
0570  1            k    = 2
```

```
0571  1              goto 200
0572  1          endif
0573  1          iuin = 2
0574  1          k    = 1
0575  1 c
0576  1 c Apply tare corrections
0577  1 c
0578  1          do j=1,3
0579  1              j1 = j+1
0580  1              Ym(j1,1) = Ym(j1,1) - Sign(j)*Ym(j1,2)
0581  1              Cf(j, 1) = Cf(j, 1) - Sign(j)*Cf(j, 2)
0582  1          enddo
0583  1          do iuout=3,-2,-5
0584  1              write  (iuout,'(//)')
0585  1              call PUTSTR (iuout,'Model Forces (excluding tare forces) :',' ',err
0586  1              write  (iuout,374) (Ym(j+1,1),Cf(j,1),j=1,3)
0587  1              write  (iuout,'(//)')
0588  1          enddo
0589              include     'PXD163.500/list'           ! Plot Cp(x)
0590  1 c PXD163.500                              Plot Cp(x/c)
0591  1 c
0592  1 500       if (ntaps.gt.1) then
0593  1              if (.not.pltfle) then
0594  1                  call MERGE  (dfile_prefix,'.PLT',string,80)
0595  1                  call PLTDVC (8,Data,string)
0596  1                  Offset(2) = 2.0
0597  1                  Plotsz(2) = 5.0
0598  1                  Chsize(1) = 0.075
0599  1                  Chsize(2) = 0.09
0600  1                  Symsiz(1) = 0.075
0601  1                  Symsiz(2) = 0.075
0602  1                  pltfle = .true.
0603  1              endif
0604  1              call MERGE  (dfile_prefix,'   Run ',string,80)
0605  1              encode (80,'(i3,a1)',string(LEN(string)+1)) nrun(1),null
0606  1              call PLTDVC (-1)
0607  1              call PLOTLB (7,string)
0608  1 c
0609  1              encode (80,502,string) Angle(1), Pta(1), Vt, null
0610  1 502          format (' %a = ',f5.2,'%0   P}t = ',f5.2,
0611  1       #          ' psiA  V}t = ',f5.2,' ft/s',a1)
0612  1              call PLOTLB (5,string)
0613  1 c
0614  1              if (Cf(2,1).gt.0.) then
0615  1                  encode (80,505,string) (Cf(j,1),j=1,3), null
0616  1 505              format ('C}L = ',f6.3,'   C}D = ',f7.4,'     C}M = ',f6.3,a1)
0617  1                  call PLOTLB (4,string)
0618  1              endif
0619  1              call XYLIMS (ntaps,XY(1,0))
0620  1              if (XYlim(2,1).gt.0.) then
0621  1                  XYlim(2,1) = 0.
0622  1              else
0623  1                  nhalf = XYlim(2,1)/.5 - 1
0624  1                  XYlim(2,1) = .5*nhalf
0625  1              endif
0626  1              nhalf = XYlim(2,2)/.5 + 1
0627  1              XYlim(2,2) = .5*nhalf
```

```
0628  1              call PLTLIM
0629  1              call PLTEND (-1,'x/c;-\hC}p(x/c)')
0630  1              if (XYlim(2,1).lt.0.) call XYPLOT (-8,2,XYz) ! zero line
0631  1              if (tap(0,1)) then
0632  1                  call XYPLOT (2,1,XY(1,0))
0633  1                  call XYPLOT (3,ntaps-1,XY(1,1))
0634  1              else
0635  1                  call XYPLOT (3,ntaps,XY(1,0))
0636  1              endif
0637  1              call PLTDVC (10)
0638  1          else
0639  1              type *, 'No plot generated for this run'
0640  1          endif
0641              goto 200
0642              end
```

PROGRAM SECTIONS

	Name	Bytes	Attributes
0	$CODE	4503	PIC CON REL LCL SHR EXE RD NOW
1	$PDATA	1208	PIC CON REL LCL SHR NOEXE RD NOW
2	$LOCAL	5064	PIC CON REL LCL NOSHR NOEXE RD W
3	DEVCOM	24	PIC OVR REL GBL SHR NOEXE RD W
4	PLTCOM	24	PIC OVR REL GBL SHR NOEXE RD W
5	SYMCOM	8	PIC OVR REL GBL SHR NOEXE RD W
	Total Space Allocated	10831	

ENTRY POINTS

Address	Type	Name
0-00000000		PXD163

VARIABLES

Address	Type	Name	Address	Type	Name	Address	Type
2-00000A19	L*1	ERR	**	I*4	I	2-00000A2C	I*4
2-00000A20	I*4	IP	**	I*4	IP1	**	I*4
2-00000A30	I*4	IUOUT	**	I*4	J	**	I*4
2-00000A28	I*4	K	**	I*4	LINE	**	I*4
**	I*4	NHALF	2-00000A34	I*4	NTAPS	**	L*1
**	R*4	VT	**	R*4	VT2		

ARRAYS

Address	Type	Name	Bytes	Dimensions
2-00000000	R*4	AIR	8	(2)
2-00000008	R*4	ANGLE	8	(2)
2-00000844	L*1	BUFFER	81	(81)
2-00000010	R*4	CF	24	(3, 2)
3-00000010	R*4	CHSIZE	8	(2)
2-00000895	L*1	CLBFLE	16	(16)
2-00000028	R*4	DATA	32	(0:7)
2-000008A5	L*1	DATSTR	16	(16)
2-000008B7	L*1	DFILE_PREFIX	7	(7)
3-00000000	R*4	FACTOR	8	(2)
2-00000048	R*4	FC	36	(3, 3)
2-000008B5	L*1	FF	2	(2)
2-000008BE	L*1	INPFLE	11	(11)
2-000008C9	L*1	LABEL	12	(6, 2)
2-0000006C	I*4	NRUN	8	(2)
2-00000074	R*4	OC	112	(2, 0:6, 2)
2-000008D5	L*1	OFFFLE	16	(16)
3-00000008	R*4	OFFSET	8	(2)
2-000008E5	L*1	OUTFLE	11	(11)
2-000000E4	R*4	PAH	8	(2)
2-000000EC	R*4	PAP	8	(2)
2-000000F4	R*4	PC	16	(4)
4-00000000	R*4	PLOTSZ	8	(2)
2-00000104	R*4	PTA	8	(2)
2-0000010C	R*4	PTG	8	(2)
2-00000114	R*4	PTH	8	(2)
2-0000011C	R*4	PV	8	(2)
2-00000124	R*4	PVH	8	(2)
2-0000012C	R*4	SIGN	12	(3)
2-000008F0	L*1	STRING	81	(81)
2-00000941	L*1	STROUT	81	(81)
5-00000000	R*4	SYMSIZ	8	(2)
2-00000138	L*4	TAP	104	(0:12, 2)
2-00000992	L*1	TARFLE	16	(16)
2-000009A2	L*1	TFILE_PREFIX	7	(7)
2-000001A0	R*4	TW	8	(2)
2-000009A9	L*1	UNITS	56	(8, 0:6)
2-000001A8	R*4	V	728	(2, 0:6, 0:12)
2-00000480	R*4	VTH	8	(2)
2-000009E1	L*1	WHICH	56	(8, 0:6)
2-00000488	R*4	XT	52	(0:12)
2-000004BC	R*4	XY	104	(2, 0:12)
4-00000008	R*4	XYLIM	16	(2, 2)
2-00000524	R*4	XYZ	16	(2, 2)
2-00000534	R*4	Y	728	(0:6, 0:12, 2)
2-0000080C	R*4	YM	56	(0:6, 2)

LABELS

Address	Label	Address	Label	Address	Label	Address	Lab
0-000000AC	10	1-00000275	11′	1-000002A6	13′	0-0000013E	20
0-000001CC	110	0-00000280	114	**	120	**	122
0-00000444	132	0-00000498	134	0-00000518	200	0-00000518	202
0-00000794	222	0-000007F4	300	1-000002BE	301′	1-000002CB	303
**	345	0-00000AFA	347	**	353	0-00000BEC	370
1-000002F1	373′	1-0000030E	374′	1-00000381	375′	1-000003FF	376
0-00000EA4	392	**	500	1-00000455	502′	1-0000048C	505

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name	Type	Name	Type	Name
	CALIBR		FOR$CLOSE		FOR$DATE		FOR$EXIT
I*2	INDEX	I*2	ISVARS	I*2	LEN		MERGE
	PLTDVC		PLTEND		PLTLIM		PROMPT
	XYLIMS		XYPLOT				

COMMAND QUALIFIERS

FOR/EXT PXD163/LIST

/CHECK=(NOBOUNDS,OVERFLOW,NOUNDERFLOW)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/STANDARD=(NOSYNTAX,NOSOURCE_FORM)
/SHOW=(NOPREPROCESSOR,NOINCLUDE,MAP,NODICTIONARY,SINGLE)
/WARNINGS=(GENERAL,NODECLARATIONS)
/CONTINUATIONS=19 /NOCROSS_REFERENCE /NOD_LINES /EXTEND_SOURCE /F77
/NOG_FLOATING /I4 /NOMACHINE_CODE /OPTIMIZE

COMPILATION STATISTICS

Run Time:	19.08 seconds
Elapsed Time:	20.63 seconds
Page Faults:	1129
Dynamic Memory:	856 pages

APPENDIX B: TEST DATA

APPENDIX B.1 Rough leading edge test data

1.0 degree Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS254	cavitation inception	156	59.65	11.21	.303	.0108	.019
YTS255	S = 0.95 (mid-chord cavit.)	157	59.71	10.61	.303	.0107	.020
YTS257	S = 0.9	159	59.86	9.63	.314	.0120	.013
YTS258	S = 0.85	160	60.05	8.92	.287	.0162	.007
YTS259	S = 0.8	161	59.96	8.66	.272	.0176	.005

2.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS247	cavit. inc. (rough surface)	149	29.95	4.33	.411	.0114	.050
YTS249		151	29.94	3.78	.415	.0114	.050
YTS250	60% to 80% cavity	152	30.04	3.56	.430	.0120	.049
YTS253	fully wetted	155	29.43	8.81	.419	.0132	.049
YTS251	60% to 80% cavity	153	30.16	3.37	.462	.0159	.040

3.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS242	cavitation inception	144	29.33	6.93	.531	.0135	.076
YTS241	cavitation inception	143	58.83	29.19	.524	.0095	.075

4.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS234	25% cavity	136	26.47	5.30	.628	.0152	.102
YTS235	40% cavity	137	26.56	4.93	.640	.0154	.105
YTS237	60% cavity	139	26.85	4.52	(.687	.022	.109)
YTS233	fully wetted	135	39.38	26.87	(.632	.0172	.095)
YTS226	cavitation inception	128	39.40	18.26	.633	.0147	.098
YTS227	10% cavity	129	39.48	12.18	.646	.0153	.103
YTS228	25% cavity	130	39.39	10.82	.664	.0164	.108
YTS229	40% cavity	131	39.40	9.91	.689	.0172	.112
YTS230	60% cavity (particle stuck between model and wall)	132	39.37	9.22	.713	.0198	.110
YTS231	60% cavity	133	39.15	9.23	(.720	.0232	.111)
YTS232	80% cavity	134	39.53	8.49	.712	.0314	.088
YTS238	25% cavity	140	59.53	24.44			
YTS239	40% cavity	141	58.67	22.51			
YTS240	60% cavity	142	58.69	21.02			

6.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS218	cavitation inception	120	39.30	32.83	.786	.0217	.138
YTS219	10% cavity	121	39.41	19.28	.808	.0278	.147
YTS220	10% cavity	122	39.22	19.21	.809	.0276	.147
YTS221	25% cavity	123	39.38	15.92	.820	.0310	.153
YTS222	25% cavity	124	39.46	13.57	.849	.0359	.159
YTS223	60% cavity	125	39.49	12.33	.884	.0447	.152
YTS224	80% cavity	126	39.63	10.84	.905	.0586	.122

yts216.off 18-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.447 ft Hg (14.40 psiA)
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0325	0.0157	-0.0805	-0.0214	-0.0213	-0.0085	-0.0493
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

```
YTS218.D03      2-FEB-88
YTS218.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS218.dat    18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* cavitation inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.447 ft HgA,  = 14.42 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt




YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS218.D03 - Continued

Run number : 120
*
Angle of attack : 6.00 degrees
Tunnel pressure = 5.562 ftHgA = 32.78 psiA
Speed manometer = 1.952 ftHgW = 39.53 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	3.7433	1.6983	-2.5346	-0.3639	-2.3150	-0.0122	0.8447
	0.0047	0.0093	0.0172	0.0472	0.0192	0.0049	0.0111
1	3.7329	1.7075	-2.5515	-0.3565	-2.3303	0.0813	-3.0081
	0.0086	0.0094	0.0172	0.0451	0.0291	0.0052	0.0114
2	3.7219	1.7164	-2.5533	-0.3766	-2.3349	0.1836	-2.3755
	0.0035	0.0088	0.0175	0.0382	0.0099	0.0053	0.0104
3	3.7228	1.7050	-2.5417	-0.3604	-2.3198	0.2870	-2.0301
	0.0056	0.0080	0.0160	0.0492	0.0328	0.0058	0.0073
4	3.7528	1.6978	-2.5328	-0.3672	-2.3144	0.3903	-1.8262
	0.0000	0.0106	0.0158	0.0400	0.0165	0.0058	0.0106
5	3.7250	1.7198	-2.5646	-0.3695	-2.3455	0.4936	-1.6162
	0.0077	0.0111	0.0176	0.0494	0.0108	0.0058	0.0111
6	3.7161	1.7237	-2.5757	-0.3707	-2.3543	0.5972	-1.5142
	0.0053	0.0091	0.0155	0.0399	0.0149	0.0058	0.0111
7	3.7173	1.7183	-2.5582	-0.3647	-2.3367	0.7001	-1.3548
	0.0129	0.0100	0.0197	0.0432	0.0136	0.0054	0.0096
8	3.7153	1.7194	-2.5646	-0.3638	-2.3448	0.8027	-1.2281
	0.0079	0.0117	0.0152	0.0456	0.0133	0.0057	0.0096
9	3.7271	1.7356	-2.5855	-0.3720	-2.3624	0.9062	-1.0304
	0.0101	0.0106	0.0172	0.0385	0.0165	0.0067	0.0108
10	3.7578	1.7049	-2.5423	-0.3663	-2.3218	1.0080	-0.6825
	0.0050	0.0090	0.0141	0.0434	0.0237	0.0060	0.0098
11	3.7222	1.7320	-2.5749	-0.3688	-2.3539	1.1114	-0.2618
	0.0078	0.0117	0.0191	0.0437	0.0100	0.0068	0.0093
12	3.7224	1.7218	-2.5652	-0.3740	-2.3387	1.2133	-0.0525
	0.0077	0.0091	0.0167	0.0472	0.0119	0.0057	0.0083

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	18.52	10.43	294.66	8.16	25.60	0.00	4.47
1	18.47	10.49	296.69	7.99	25.77	1.00	-14.79
2	18.42	10.54	296.90	8.46	25.82	2.00	-11.63
3	18.42	10.47	295.51	8.08	25.65	3.00	-9.90
4	18.57	10.43	294.44	8.24	25.59	4.00	-8.88
5	18.43	10.57	298.26	8.29	25.94	5.00	-7.83
6	18.39	10.59	299.59	8.32	26.04	6.00	-7.32
7	18.40	10.56	297.49	8.18	25.84	7.00	-6.53
8	18.39	10.56	298.26	8.16	25.93	8.00	-5.89
9	18.44	10.66	300.77	8.35	26.13	9.00	-4.91
10	18.60	10.47	295.58	8.22	25.67	10.00	-3.17
11	18.42	10.64	299.49	8.28	26.03	11.00	-1.06
12	18.42	10.58	298.33	8.40	25.86	12.00	-0.02
Averages	18.45	10.54	297.47	8.24	25.84	6.00	-5.96

Total Forces (including tare forces) :

Lift	= 297.47 lbs,	CL =	0.794
Drag	= 8.24 lbs,	CD =	0.0220
Moment	= 25.84 ft-lbs,	CM =	0.138

Tunnel Pressure & Velocity :

Pt	= 18.45 psiG	=	32.88 psiA
Pv	= 10.54 Dpsi,	Vt =	39.30 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.47	-0.434
1	0.030	-14.79	1.429
2	0.060	-11.63	1.118
3	0.110	-9.90	0.958
4	0.160	-8.88	0.863
5	0.260	-7.83	0.751
6	0.330	-7.32	0.701
7	0.450	-6.53	0.627
8	0.560	-5.89	0.565
9	0.680	-4.91	0.466
10	0.810	-3.17	0.306
11	0.900	-1.06	0.101
12	0.950	-0.02	0.002

* no photo
*
EOR

YTS218.D03 - Continued

Run number : 220
* tare run for run 120 (yts218)
*
Angle of attack : 6.00 degrees
Tunnel pressure = 5.570 ftHgA = 32.83 psiA
Speed manometer = 1.950 ftHgW = 39.51 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	3.6826	1.7538	-0.0774	0.0053	0.0040	1.3145	-3.7611
	0.0076	0.0108	0.0059	0.0311	0.0053	0.0048	0.0073

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	18.47	10.77	-3.05	0.10	-0.01	0.00	-17.98
Averages	18.47	10.77	-3.05	0.10	-0.01	0.00	-17.98

Tare Forces :

Lift = -3.05 lbs, CL = -0.008
Drag = 0.10 lbs, CD = 0.0003
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 18.47 psiG = 32.86 psiA
Pv = 10.77 Dpsi, Vt = 39.73 ft/s

*
EOR

Model Forces (excluding tare forces) :

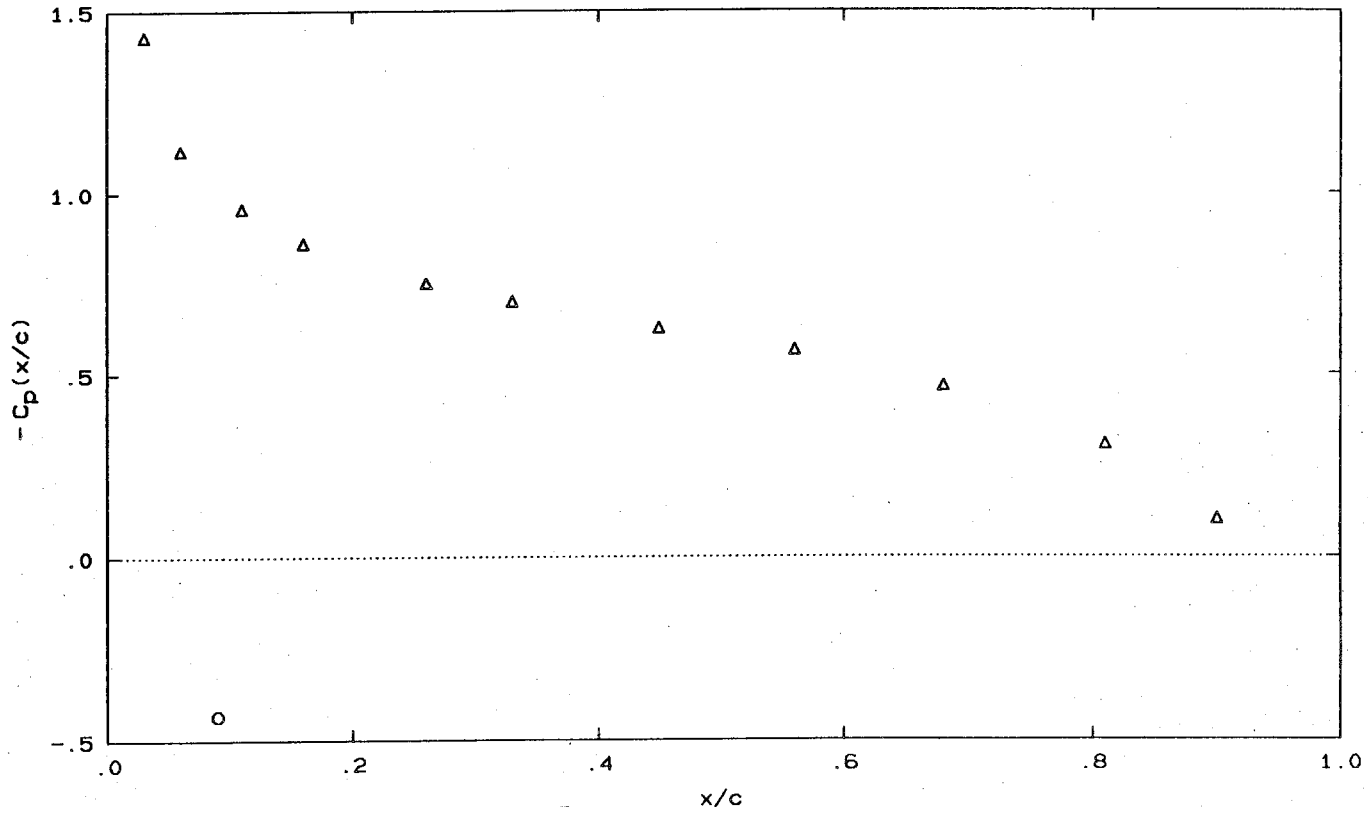
Lift = 294.42 lbs, CL = 0.786
Drag = 8.14 lbs, CD = 0.0217
Moment = 25.84 ft-lbs, CM = 0.138

EOF YTS218.D03

YTS218 Run 120

α = 6.00° P_t = 32.88 psiA V_t = 39.73 ft/s

C_L = 0.786 C_D = 0.0217 C_M = 0.138



```
YTS219.D03      2-FEB-88
YTS219.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS219.dat    18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* cavity 10%
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.447 ft HgA,  = 14.42 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt




YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS219.D03 - Continued

Run number : 121
* cavity 10%
*
Angle of attack : 6.00 degrees
Tunnel pressure = 3.290 ftHgA = 19.39 psiA
Speed manometer = 1.923 ftHgW = 39.23 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.9617	1.7189	-2.6378	-0.4974	-2.4824	-0.0153	0.8431
	0.0080	0.0078	0.0244	0.0602	0.0251	0.0075	0.0098
1	0.9504	1.7308	-2.6563	-0.4993	-2.5134	0.0789	-3.6098
	0.0076	0.0125	0.0334	0.0646	0.0291	0.0079	0.0131
2	0.9580	1.7241	-2.6447	-0.4935	-2.4972	0.1833	-3.6915
	0.0087	0.0115	0.0255	0.0626	0.0185	0.0078	0.0116
3	0.9436	1.7207	-2.6330	-0.4947	-2.4789	0.2879	-2.3527
	0.0072	0.0099	0.0228	0.0627	0.0327	0.0075	0.0249
4	0.9517	1.7158	-2.6240	-0.4935	-2.4699	0.3920	-1.5706
	0.0079	0.0106	0.0248	0.0699	0.0148	0.0072	0.0099
5	0.9467	1.7206	-2.6412	-0.4924	-2.4907	0.4956	-1.5599
	0.0077	0.0094	0.0263	0.0620	0.0313	0.0080	0.0088
6	0.9665	1.7210	-2.6424	-0.4990	-2.4905	0.5990	-1.4795
	0.0083	0.0102	0.0250	0.0519	0.0295	0.0073	0.0087
7	0.9621	1.7228	-2.6465	-0.4945	-2.4932	0.7027	-1.3601
	0.0082	0.0090	0.0264	0.0586	0.0385	0.0078	0.0105
8	0.9581	1.7295	-2.6471	-0.4985	-2.4972	0.8054	-1.2329
	0.0079	0.0125	0.0276	0.0580	0.0151	0.0077	0.0108
9	0.9542	1.7272	-2.6476	-0.5000	-2.5013	0.9086	-1.0297
	0.0082	0.0114	0.0312	0.0673	0.0315	0.0082	0.0113
10	0.9439	1.7358	-2.6586	-0.4986	-2.5130	1.0117	-0.7133
	0.0077	0.0126	0.0309	0.0651	0.0296	0.0073	0.0102
11	0.9494	1.7287	-2.6514	-0.4993	-2.5009	1.1143	-0.3073
	0.0080	0.0100	0.0286	0.0560	0.0307	0.0084	0.0097
12	0.9378	1.7291	-2.6533	-0.4973	-2.5018	1.2167	-0.0900
	0.0075	0.0136	0.0320	0.0548	0.0422	0.0074	0.0093

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.88	10.56	307.05	11.29	27.46	0.00	4.46
1	4.82	10.63	309.27	11.34	27.81	1.00	-17.80
2	4.86	10.59	307.88	11.20	27.63	2.00	-18.21
3	4.79	10.57	306.47	11.23	27.42	3.00	-11.52
4	4.83	10.54	305.39	11.20	27.32	4.00	-7.61
5	4.80	10.57	307.46	11.17	27.55	5.00	-7.55
6	4.90	10.57	307.60	11.33	27.55	6.00	-7.15
7	4.88	10.58	308.10	11.22	27.58	7.00	-6.55
8	4.86	10.63	308.17	11.32	27.63	8.00	-5.92
9	4.84	10.61	308.23	11.35	27.67	9.00	-4.90
10	4.79	10.66	309.55	11.32	27.80	10.00	-3.32
11	4.82	10.62	308.68	11.34	27.67	11.00	-1.29
12	4.76	10.62	308.91	11.29	27.68	12.00	-0.20
Averages	4.83	10.60	308.00	11.28	27.61	6.00	-6.74

Total Forces (including tare forces) :

Lift = 308.00 lbs, CL = 0.818
Drag = 11.28 lbs, CD = 0.0300
Moment = 27.61 ft-lbs, CM = 0.147

Tunnel Pressure & Velocity :

Pt = 4.83 psiG = 19.26 psiA
Pv = 10.60 Dpsi, Vt = 39.41 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.46	-0.428
1	0.030	-17.80	1.696
2	0.060	-18.21	1.742
3	0.110	-11.52	1.104
4	0.160	-7.61	0.731
5	0.260	-7.55	0.724
6	0.330	-7.15	0.685
7	0.450	-6.55	0.627
8	0.560	-5.92	0.564
9	0.680	-4.90	0.468
10	0.810	-3.32	0.315
11	0.900	-1.29	0.123
12	0.950	-0.20	0.019

*
EOR

Run number : 221
* tare run for run 121 (yts219)
*
Angle of attack : 6.00 degrees
Tunnel pressure = 3.271 ftHgA = 19.28 psiA
Speed manometer = 1.958 ftHgW = 39.59 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.8819	1.7350	-0.0733	-0.0250	0.0036	1.3146	-1.0152
	0.0048	0.0083	0.0073	0.0382	0.0082	0.0049	0.0080
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.73	10.66	-3.54	0.81	0.00	0.00	-4.25
Averages	4.73	10.66	-3.54	0.81	0.00	0.00	-4.25

Tare Forces :

Lift = -3.54 lbs, CL = -0.009
Drag = 0.81 lbs, CD = 0.0021
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

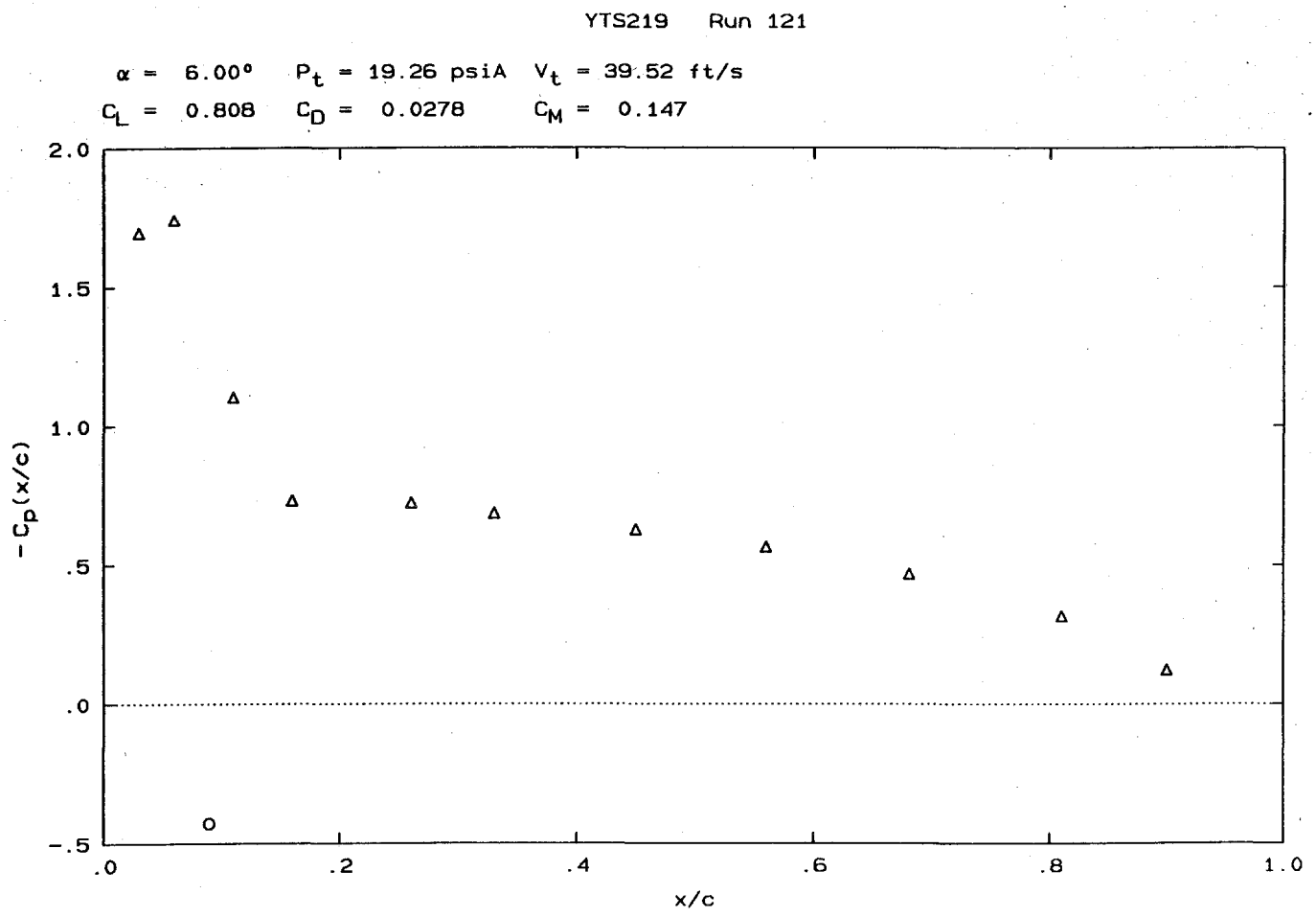
Pt = 4.73 psiG = 19.12 psiA
Pv = 10.66 Dpsi, Vt = 39.52 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 304.46 lbs, CL = 0.808
Drag = 10.47 lbs, CD = 0.0278
Moment = 27.60 ft-lbs, CM = 0.147

EOF YTS219.D03


YTS219 Run 121
α = 6.00° Pt = 19.26 psiA Vt = 39.52 ft/s
CL = 0.808 CD = 0.0278 CM = 0.147
2.0
1.5
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS220.D03 2-FEB-88
YTS220.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS220.dat 18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* repeat yts219
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.447 ft HgA, = 14.42 psiA
Water temperature : 24.00 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS220.D03 - Continued

Run number : 122
*
Angle of attack : 6.00 degrees
Tunnel pressure = 3.268 ftHgA = 19.26 psiA
Speed manometer = 1.926 ftHgW = 39.26 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.9549	1.7131	-2.6371	-0.4888	-2.4828	-0.0150	0.8480
	0.0081	0.0170	0.0282	0.0606	0.0316	0.0053	0.0098
1	0.9464	1.7178	-2.6346	-0.4906	-2.4826	0.0798	-3.6380
	0.0069	0.0168	0.0241	0.0636	0.0261	0.0056	0.0117
2	0.9485	1.7111	-2.6272	-0.4923	-2.4739	0.1835	-3.6546
	0.0072	0.0157	0.0252	0.0591	0.0215	0.0060	0.0129
3	0.9461	1.7027	-2.6157	-0.4914	-2.4631	0.2880	-2.0171
	0.0087	0.0161	0.0276	0.0510	0.0243	0.0059	0.0478
4	0.9547	1.7160	-2.6308	-0.4922	-2.4825	0.3920	-1.5753
	0.0085	0.0135	0.0279	0.0639	0.0199	0.0057	0.0100
5	0.9084	1.7141	-2.6320	-0.4935	-2.4819	0.4952	-1.5381
	0.0079	0.0178	0.0305	0.0530	0.0296	0.0059	0.0107
6	0.9312	1.7057	-2.6237	-0.4905	-2.4755	0.5990	-1.4681
	0.0067	0.0124	0.0202	0.0684	0.0267	0.0056	0.0099
7	0.9458	1.7153	-2.6304	-0.4907	-2.4792	0.7026	-1.3474
	0.0071	0.0155	0.0285	0.0616	0.0358	0.0059	0.0097
8	0.9681	1.6934	-2.5979	-0.4753	-2.4387	0.8040	-1.2137
	0.0080	0.0180	0.0230	0.0664	0.0210	0.0062	0.0110
9	0.9389	1.7104	-2.6302	-0.4844	-2.4762	0.9081	-1.0180
	0.0070	0.0146	0.0280	0.0707	0.0193	0.0064	0.0093
10	0.9434	1.7035	-2.6198	-0.4929	-2.4619	1.0106	-0.6951
	0.0069	0.0186	0.0263	0.0801	0.0203	0.0062	0.0101
11	0.9475	1.7005	-2.6051	-0.4845	-2.4531	1.1130	-0.3011
	0.0074	0.0164	0.0289	0.0484	0.0267	0.0071	0.0098
12	0.9403	1.7078	-2.6222	-0.4858	-2.4682	1.2158	-0.0869
	0.0068	0.0139	0.0281	0.0572	0.0160	0.0059	0.0094

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.84	10.52	306.97	11.09	27.47	0.00	4.49
1	4.80	10.55	306.67	11.13	27.46	1.00	-17.94
2	4.81	10.51	305.78	11.17	27.37	2.00	-18.03
3	4.80	10.46	304.40	11.15	27.25	3.00	-9.84
4	4.84	10.54	306.21	11.17	27.46	4.00	-7.63
5	4.62	10.53	306.35	11.20	27.46	5.00	-7.44
6	4.73	10.48	305.36	11.13	27.38	6.00	-7.09
7	4.80	10.54	306.16	11.13	27.43	7.00	-6.49
8	4.91	10.40	302.26	10.77	26.97	8.00	-5.82
9	4.77	10.51	306.14	10.99	27.39	9.00	-4.84
10	4.79	10.46	304.89	11.18	27.23	10.00	-3.23
11	4.81	10.45	303.12	10.99	27.13	11.00	-1.26
12	4.77	10.49	305.18	11.02	27.30	12.00	-0.19
Averages	4.79	10.50	305.44	11.09	27.34	6.00	-6.56

Total Forces (including tare forces) :

Lift = 305.44 lbs, CL = 0.819
Drag = 11.09 lbs, CD = 0.0297
Moment = 27.34 ft-lbs, CM = 0.147

Tunnel Pressure & Velocity :

Pt = 4.79 psiG = 19.21 psiA
Pv = 10.50 Dpsi, Vt = 39.22 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.49	-0.432
1	0.030	-17.94	1.723
2	0.060	-18.03	1.738
3	0.110	-9.84	0.953
4	0.160	-7.63	0.733
5	0.260	-7.44	0.716
6	0.330	-7.09	0.686
7	0.450	-6.49	0.624
8	0.560	-5.82	0.567
9	0.680	-4.84	0.467
10	0.810	-3.23	0.313
11	0.900	-1.26	0.122
12	0.950	-0.19	0.018

* pressure drifted
*
EOR

Run number : 221 (copy)
* tare run for run 122 (YTS220)
* This is an edited copy of Run 221 for data processing purposes
*
Angle of attack : 6.00 degrees
Tunnel pressure = 3.271 ftHgA = 19.28 psiA
Speed manometer = 1.958 ftHgW = 39.59 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.8819	1.7350	-0.0733	-0.0250	0.0036	1.3146	-1.0152
	0.0048	0.0083	0.0073	0.0382	0.0082	0.0049	0.0080
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.73	10.66	-3.54	0.81	0.00	0.00	-4.25
Averages	4.73	10.66	-3.54	0.81	0.00	0.00	-4.25

Tare Forces :

Lift = -3.54 lbs, CL = -0.009
Drag = 0.81 lbs, CD = 0.0021
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 4.73 psiG = 19.12 psiA
Pv = 10.66 Dpsi, Vt = 39.52 ft/s

*
EOR

Model Forces (excluding tare forces) :

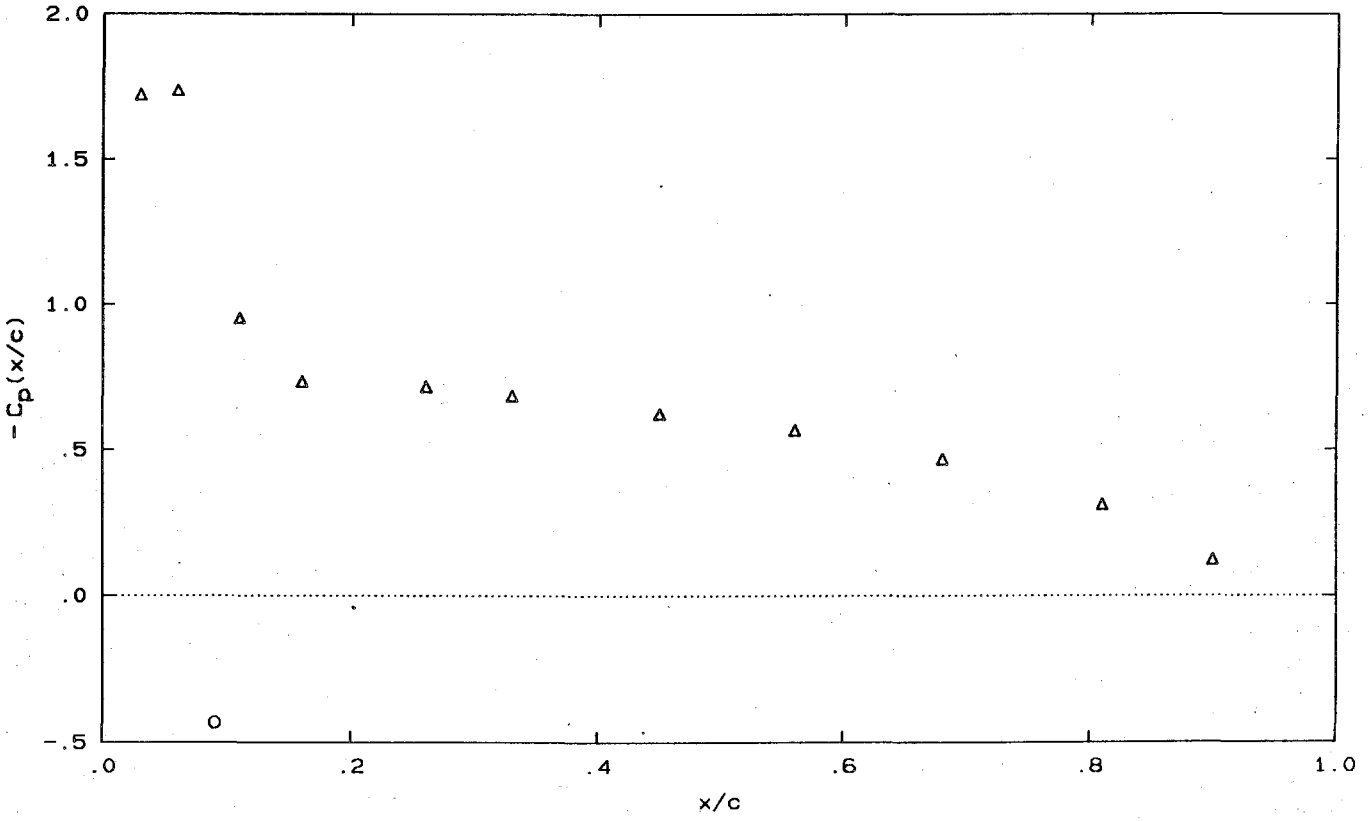
Lift = 301.90 lbs, CL = 0.809
Drag = 10.28 lbs, CD = 0.0276
Moment = 27.34 ft-lbs, CM = 0.147

EOF YTS220.D03

YTS220 Run 122

α = 6.00° P_t = 19.21 psiA V_t = 39.52 ft/s

C_L = 0.809 C_D = 0.0276 C_M = 0.147



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YTS221.D03      2-FEB-88
YTS221.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS221.dat     18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* 25% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.447 ft HgA,  = 14.42 psiA
Water temperature :   24.00  C
Water air content :    0.00  ml/lt




YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,  = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS221.D03 - Continued

Run number : 123
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.710 ftHgA = 15.97 psiA
Speed manometer = 1.931 ftHgW = 39.31 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.2850	1.7230	-2.6771	-0.5565	-2.5932	-0.0168	0.8456
	0.0071	0.0036	0.1091	0.1699	0.0341	0.0052	0.0083
1	0.2739	1.7258	-2.6784	-0.5565	-2.6108	0.0780	-3.0939
	0.0079	0.0083	0.1104	0.1628	0.0434	0.0057	0.0084
2	0.2832	1.7212	-2.6679	-0.5431	-2.5931	0.1832	-3.1329
	0.0068	0.0051	0.1166	0.1977	0.0521	0.0057	0.0035
3	0.2755	1.7190	-2.6835	-0.5457	-2.6027	0.2888	-3.1366
	0.0069	0.0070	0.1082	0.1969	0.0554	0.0059	0.0051
4	0.2535	1.7350	-2.6982	-0.5612	-2.6462	0.3942	-2.9929
	0.0073	0.0086	0.1294	0.2492	0.0803	0.0056	0.0093
5	0.2761	1.7155	-2.6652	-0.5460	-2.5951	0.4972	-1.1806
	0.0076	0.0078	0.1198	0.2056	0.1037	0.0060	0.0154
6	0.2700	1.7228	-2.6815	-0.5368	-2.6146	0.6017	-1.2557
	0.0074	0.0095	0.1231	0.2140	0.0608	0.0058	0.0103
7	0.2755	1.7232	-2.6796	-0.5425	-2.6073	0.7052	-1.2640
	0.0070	0.0087	0.1227	0.2177	0.0652	0.0059	0.0100
8	0.2701	1.7229	-2.6775	-0.5488	-2.6019	0.8077	-1.1816
	0.0074	0.0067	0.1185	0.1958	0.1270	0.0070	0.0097
9	0.2681	1.7267	-2.6898	-0.5526	-2.6080	0.9110	-1.0009
	0.0083	0.0084	0.1364	0.2228	0.0778	0.0065	0.0093
10	0.2650	1.7223	-2.6743	-0.5391	-2.6084	1.0141	-0.6918
	0.0076	0.0070	0.1067	0.1939	0.0706	0.0059	0.0078
11	0.2681	1.7221	-2.6829	-0.5597	-2.6083	1.1166	-0.3064
	0.0077	0.0072	0.1356	0.2139	0.0684	0.0074	0.0073
12	0.2739	1.7117	-2.6581	-0.5459	-2.5756	1.2181	-0.0939
	0.0076	0.0061	0.1198	0.2134	0.0719	0.0065	0.0092

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.56	10.59	311.77	12.68	28.70	0.00	4.47
1	1.50	10.60	311.93	12.69	28.89	1.00	-15.22
2	1.55	10.57	310.67	12.37	28.70	2.00	-15.42
3	1.51	10.56	312.54	12.43	28.80	3.00	-15.44
4	1.40	10.66	314.31	12.80	29.29	4.00	-14.72
5	1.51	10.54	310.35	12.44	28.72	5.00	-5.66
6	1.48	10.58	312.30	12.22	28.94	6.00	-6.03
7	1.51	10.59	312.07	12.36	28.86	7.00	-6.07
8	1.48	10.58	311.82	12.50	28.80	8.00	-5.66
9	1.47	10.61	313.30	12.59	28.86	9.00	-4.76
10	1.46	10.58	311.44	12.28	28.87	10.00	-3.21
11	1.47	10.58	312.47	12.76	28.87	11.00	-1.29
12	1.50	10.52	309.49	12.43	28.50	12.00	-0.22
Averages	1.49	10.58	311.97	12.51	28.84	6.00	-6.86

YTS221.D03 Run 123 - Continued

Total Forces (including tare forces) :

Lift = 311.97 lbs, CL = 0.830
Drag = 12.51 lbs, CD = 0.0333
Moment = 28.84 ft-lbs, CM = 0.153

Tunnel Pressure & Velocity :

Pt = 1.49 psiG = 15.92 psiA
Pv = 10.58 Dpsi, Vt = 39.38 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.47	-0.428
1	0.030	-15.22	1.455
2	0.060	-15.42	1.477
3	0.110	-15.44	1.481
4	0.160	-14.72	1.399
5	0.260	-5.66	0.544
6	0.330	-6.03	0.577
7	0.450	-6.07	0.581
8	0.560	-5.66	0.542
9	0.680	-4.76	0.454
10	0.810	-3.21	0.308
11	0.900	-1.29	0.123
12	0.950	-0.22	0.021

* no. 3 has air
*
EOR

YTS221.D03 - Continued

Run number : 222
* tare run for run 123 (yts221)
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.679 ftHgA = 15.79 psiA
Speed manometer = 1.954 ftHgW = 39.55 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.2211	1.7241	-0.0722	-0.0277	0.0044	1.3146	-0.3679
	0.0039	0.0122	0.0313	0.1349	0.0096	0.0048	0.0059

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.49	10.59	-3.67	0.87	-0.01	0.00	-1.01
Averages	1.49	10.59	-3.67	0.87	-0.01	0.00	-1.01

Tare Forces :

Lift = -3.67 lbs, CL = -0.010
Drag = 0.87 lbs, CD = 0.0023
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

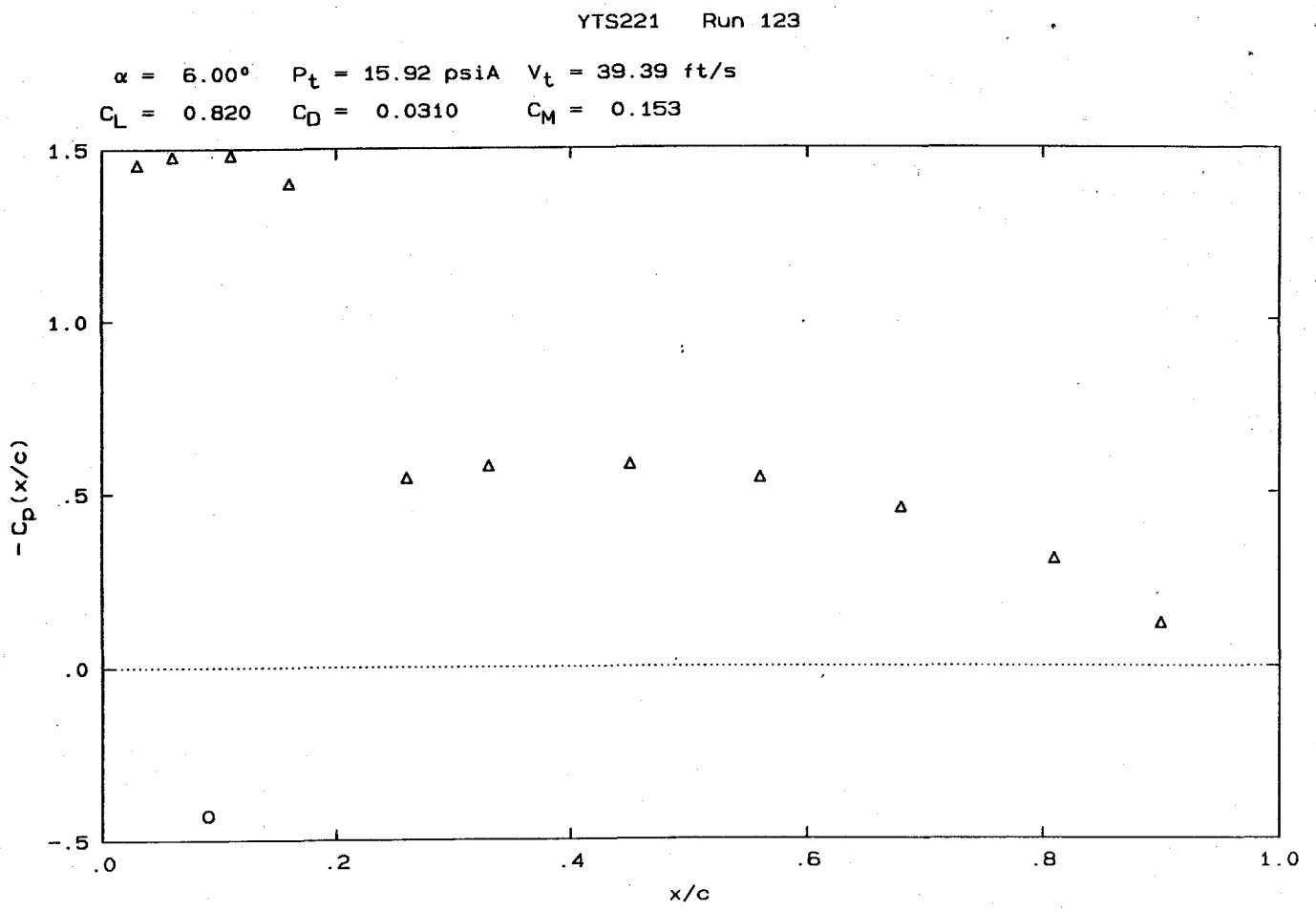
Pt = 1.49 psiG = 15.88 psiA
Pv = 10.59 Dpsi, Vt = 39.39 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 308.30 lbs, CL = 0.820
Drag = 11.64 lbs, CD = 0.0310
Moment = 28.82 ft-lbs, CM = 0.153

EOF YTS221.D03


YTS221 Run 123
α = 6.00° Pt = 15.92 psiA Vt = 39.39 ft/s
CL = 0.820 CD = 0.0310 CM = 0.153
1.5
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS222.D03      2-FEB-88
YTS222.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS222.dat     18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* 40% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.447 ft HgA,  = 14.42 psiA
Water temperature :  24.00  C
Water air content :   0.00  ml/lt



YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS222.D03 - Continued

Run number : 124
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.292 ftHgA = 13.51 psiA
Speed manometer = 1.941 ftHgW = 39.42 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.2008	1.7380	-2.8079	-0.6642	-2.7462	-0.0185	0.8446
	0.0081	0.0095	0.2496	0.2812	0.2001	0.0058	0.0082
1	-0.2120	1.7455	-2.8112	-0.6228	-2.7278	0.0762	-2.6733
	0.0090	0.0106	0.2717	0.3398	0.1680	0.0057	0.0094
2	-0.1983	1.7291	-2.7754	-0.6251	-2.6795	0.1830	-2.6889
	0.0068	0.0099	0.2259	0.2756	0.2534	0.0054	0.0099
3	-0.2032	1.7280	-2.7799	-0.6291	-2.7152	0.2896	-2.6530
	0.0083	0.0084	0.2512	0.2728	0.1657	0.0057	0.0083
4	-0.1933	1.7229	-2.7991	-0.6549	-2.7222	0.3951	-2.6597
	0.0079	0.0098	0.2424	0.2711	0.2646	0.0066	0.0080
5	-0.2117	1.7308	-2.8040	-0.6594	-2.6790	0.4983	-2.6255
	0.0074	0.0098	0.2788	0.3078	0.3216	0.0081	0.0102
6	-0.1856	1.7138	-2.7425	-0.6157	-2.6714	0.6024	-2.5345
	0.0079	0.0067	0.1820	0.2753	0.2746	0.0081	0.0110
7	-0.2200	1.7187	-2.7529	-0.6562	-2.7045	0.7072	-0.8669
	0.0077	0.0063	0.1879	0.2826	0.1403	0.0064	0.0313
8	-0.1918	1.7140	-2.7379	-0.6317	-2.6951	0.8096	-0.9980
	0.0071	0.0079	0.2061	0.2746	0.1955	0.0076	0.0109
9	-0.2128	1.7295	-2.8148	-0.6516	-2.6973	0.9131	-0.8835
	0.0083	0.0095	0.3191	0.3378	0.2072	0.0081	0.0108
10	-0.2191	1.7330	-2.7561	-0.6234	-2.7120	1.0162	-0.6436
	0.0087	0.0098	0.1805	0.3184	0.1690	0.0070	0.0131
11	-0.2169	1.7368	-2.7907	-0.6496	-2.7128	1.1187	-0.2963
	0.0083	0.0108	0.2403	0.2791	0.2166	0.0084	0.0105
12	-0.2161	1.7379	-2.7878	-0.6244	-2.7004	1.2211	-0.1201
	0.0077	0.0129	0.2309	0.2955	0.1118	0.0072	0.0171

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-0.83	10.68	327.49	15.20	30.40	0.00	4.47
1	-0.88	10.72	327.88	14.23	30.20	1.00	-13.12
2	-0.81	10.62	323.58	14.28	29.66	2.00	-13.20
3	-0.84	10.62	324.12	14.38	30.06	3.00	-13.02
4	-0.79	10.58	326.43	14.98	30.13	4.00	-13.05
5	-0.88	10.63	327.02	15.08	29.65	5.00	-12.88
6	-0.75	10.53	319.63	14.06	29.57	6.00	-12.43
7	-0.92	10.56	320.88	15.02	29.94	7.00	-4.09
8	-0.78	10.53	319.08	14.44	29.83	8.00	-4.74
9	-0.88	10.63	328.31	14.90	29.85	9.00	-4.17
10	-0.92	10.65	321.26	14.25	30.02	10.00	-2.97
11	-0.90	10.67	325.42	14.86	30.03	11.00	-1.24
12	-0.90	10.68	325.07	14.27	29.89	12.00	-0.35
Averages	-0.85	10.62	324.42	14.62	29.95	6.00	-6.98

Total Forces (including tare forces) :

Lift	= 324.42 lbs,	CL =	0.859
Drag	= 14.62 lbs,	CD =	0.0387
Moment	= 29.95 ft-lbs,	CM =	0.159

Tunnel Pressure & Velocity :

Pt	= -0.85 psiG	=	13.57 psiA
Pv	= 10.62 Dpsi,	Vt =	39.46 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.47	-0.424
1	0.030	-13.12	1.239
2	0.060	-13.20	1.259
3	0.110	-13.02	1.242
4	0.160	-13.05	1.249
5	0.260	-12.88	1.227
6	0.330	-12.43	1.196
7	0.450	-4.09	0.392
8	0.560	-4.74	0.456
9	0.680	-4.17	0.398
10	0.810	-2.97	0.283
11	0.900	-1.24	0.117
12	0.950	-0.35	0.034

*
EOR

Run number : 223
* tare run for run 124 (yts222)
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.262 ftHgA = 13.33 psiA
Speed manometer = 1.969 ftHgW = 39.70 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.2828	1.7473	-0.0709	-0.0360	0.0045	1.3145	0.1295
	0.0088	0.0085	0.0724	0.2148	0.0097	0.0047	0.0107
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-0.99	10.73	-3.83	1.07	-0.01	0.00	1.47
Averages	-0.99	10.73	-3.83	1.07	-0.01	0.00	1.47

Tare Forces :

Lift = -3.83 lbs, CL = -0.010
Drag = 1.07 lbs, CD = 0.0028
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

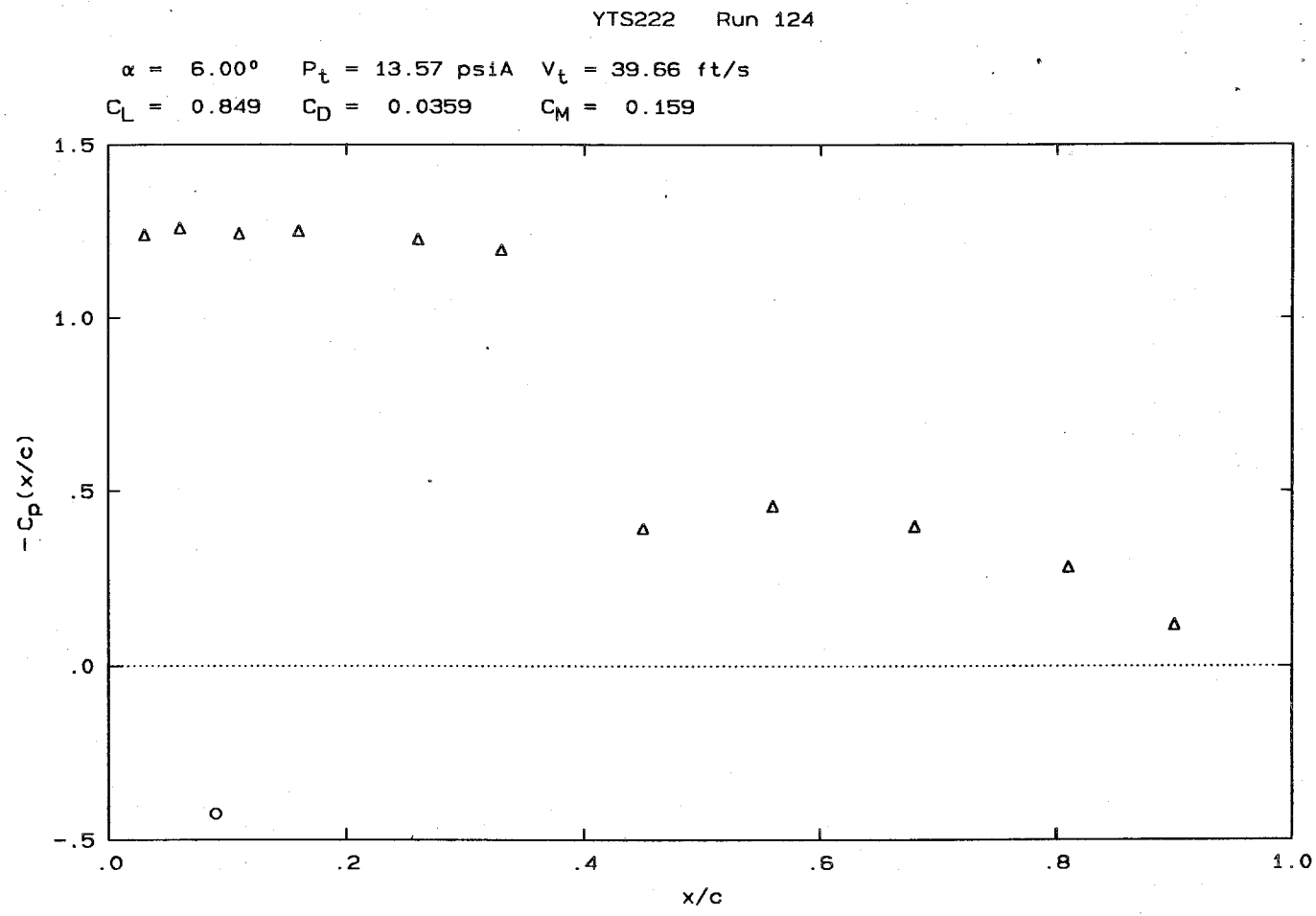
Pt = -0.99 psiG = 13.41 psiA
Pv = 10.73 Dpsi, Vt = 39.66 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 320.58 lbs, CL = 0.849
Drag = 13.55 lbs, CD = 0.0359
Moment = 29.93 ft-lbs, CM = 0.159

EOF YTS222.D03


YTS222 Run 124
α = 6.00° P_t = 13.57 psiA V_t = 39.66 ft/s
C_L = 0.849 C_D = 0.0359 C_M = 0.159
1.5
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS223.D03      2-FEB-88
YTS223.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS223.dat    18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* 60% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.447 ft HgA,  = 14.42 psiA
Water temperature :  24.00  C
Water air content :   0.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS223.D03 - Continued

Run number : 125
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.081 ftHgA = 12.26 psiA
Speed manometer = 1.963 ftHgW = 39.63 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.4514	1.7351	-2.8915	-0.7782	-2.6243	-0.0158	0.8360
	0.0104	0.0102	0.2510	1.1980	0.5266	0.0078	0.0086
1	-0.4444	1.7120	-2.8779	-0.7703	-2.6642	0.0768	-2.4352
	0.0082	0.0108	0.2338	0.7156	0.4549	0.0076	0.0111
2	-0.4539	1.7134	-2.8491	-0.7301	-2.5297	0.1826	-2.4286
	0.0091	0.0087	0.1951	0.8662	0.4695	0.0053	0.0108
3	-0.4506	1.7123	-2.8728	-0.8073	-2.6903	0.2889	-2.4307
	0.0084	0.0093	0.2286	0.9134	0.4130	0.0066	0.0099
4	-0.4627	1.7083	-2.8632	-0.7859	-2.6715	0.3932	-2.4165
	0.0088	0.0072	0.2411	0.6580	0.6585	0.0097	0.0114
5	-0.4901	1.7490	-2.9464	-0.6400	-2.5511	0.4958	-2.3122
	0.0113	0.0143	0.2585	1.1376	1.0359	0.0139	0.0117
6	-0.4937	1.7545	-2.9764	-0.6870	-2.5688	0.6011	-2.2866
	0.0120	0.0146	0.3040	1.0864	1.2503	0.0164	0.0077
7	-0.4810	1.7382	-2.8911	-0.7964	-2.5269	0.7024	-2.2221
	0.0112	0.0108	0.2414	1.0938	0.7218	0.0148	0.0096
8	-0.4733	1.7591	-2.9315	-0.7452	-2.6127	0.8055	-1.7978
	0.0101	0.0139	0.2459	1.0586	0.7069	0.0163	0.0076
9	-0.4626	1.7485	-2.9300	-0.8228	-2.5982	0.9089	-0.6292
	0.0121	0.0160	0.2913	0.9616	0.7583	0.0174	0.0084
10	-0.4359	1.7285	-2.8734	-0.7982	-2.6913	1.0145	-0.4918
	0.0080	0.0090	0.2523	0.7923	0.3916	0.0112	0.0100
11	-0.4436	1.7327	-2.8925	-0.7901	-2.6321	1.1146	-0.2722
	0.0083	0.0085	0.2270	0.9201	0.5404	0.0148	0.0146
12	-0.4325	1.7259	-2.9053	-0.8037	-2.7183	1.2201	-0.1336
	0.0092	0.0078	0.2218	0.7642	0.3332	0.0109	0.0126

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.06	10.66	337.52	17.83	29.02	0.00	4.43
1	-2.02	10.52	335.89	17.65	29.47	1.00	-11.93
2	-2.07	10.53	332.42	16.70	27.97	2.00	-11.90
3	-2.05	10.52	335.27	18.52	29.76	3.00	-11.91
4	-2.11	10.49	334.12	18.02	29.55	4.00	-11.84
5	-2.24	10.75	344.12	14.58	28.21	5.00	-11.31
6	-2.26	10.78	347.72	15.68	28.40	6.00	-11.19
7	-2.20	10.68	337.46	18.24	27.93	7.00	-10.86
8	-2.16	10.81	342.32	17.05	28.89	8.00	-8.74
9	-2.11	10.74	342.14	18.87	28.73	9.00	-2.90
10	-1.98	10.62	335.34	18.31	29.77	10.00	-2.21
11	-2.02	10.65	337.64	18.11	29.11	11.00	-1.11
12	-1.96	10.60	339.18	18.44	30.07	12.00	-0.42
Averages	-2.10	10.64	338.65	17.55	29.01	6.00	-7.07

Total Forces (including tare forces) :

Lift	= 338.65 lbs,	CL =	0.895
Drag	= 17.55 lbs,	CD =	0.0464
Moment	= 29.01 ft-lbs,	CM =	0.153

Tunnel Pressure & Velocity :

Pt	= -2.10 psiG	=	12.33 psiA
Pv	= 10.64 Dpsi,	Vt =	39.49 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.43	-0.421
1	0.030	-11.93	1.149
2	0.060	-11.90	1.145
3	0.110	-11.91	1.147
4	0.160	-11.84	1.143
5	0.260	-11.31	1.067
6	0.330	-11.19	1.051
7	0.450	-10.86	1.031
8	0.560	-8.74	0.819
9	0.680	-2.90	0.273
10	0.810	-2.21	0.211
11	0.900	-1.11	0.106
12	0.950	-0.42	0.040

* repeated 1st 4 taps
*
EOR

YTS223.D03 - Continued

Run number : 224
* tare run for run 125
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.051 ftHgA = 12.09 psiA
Speed manometer = 1.979 ftHgW = 39.80 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.5370	1.7540	-0.0680	-0.0182	0.0316	1.3147	0.3695
	0.0086	0.0172	0.0884	0.7172	0.3324	0.0049	0.0079
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.23	10.77	-4.18	0.65	-0.32	0.00	2.67
Averages	-2.23	10.77	-4.18	0.65	-0.32	0.00	2.67

Tare Forces :

Lift = -4.18 lbs, CL = -0.011
Drag = 0.65 lbs, CD = 0.0017
Moment = -0.32 ft-lbs, CM = -0.002

Tunnel Pressure & Velocity :

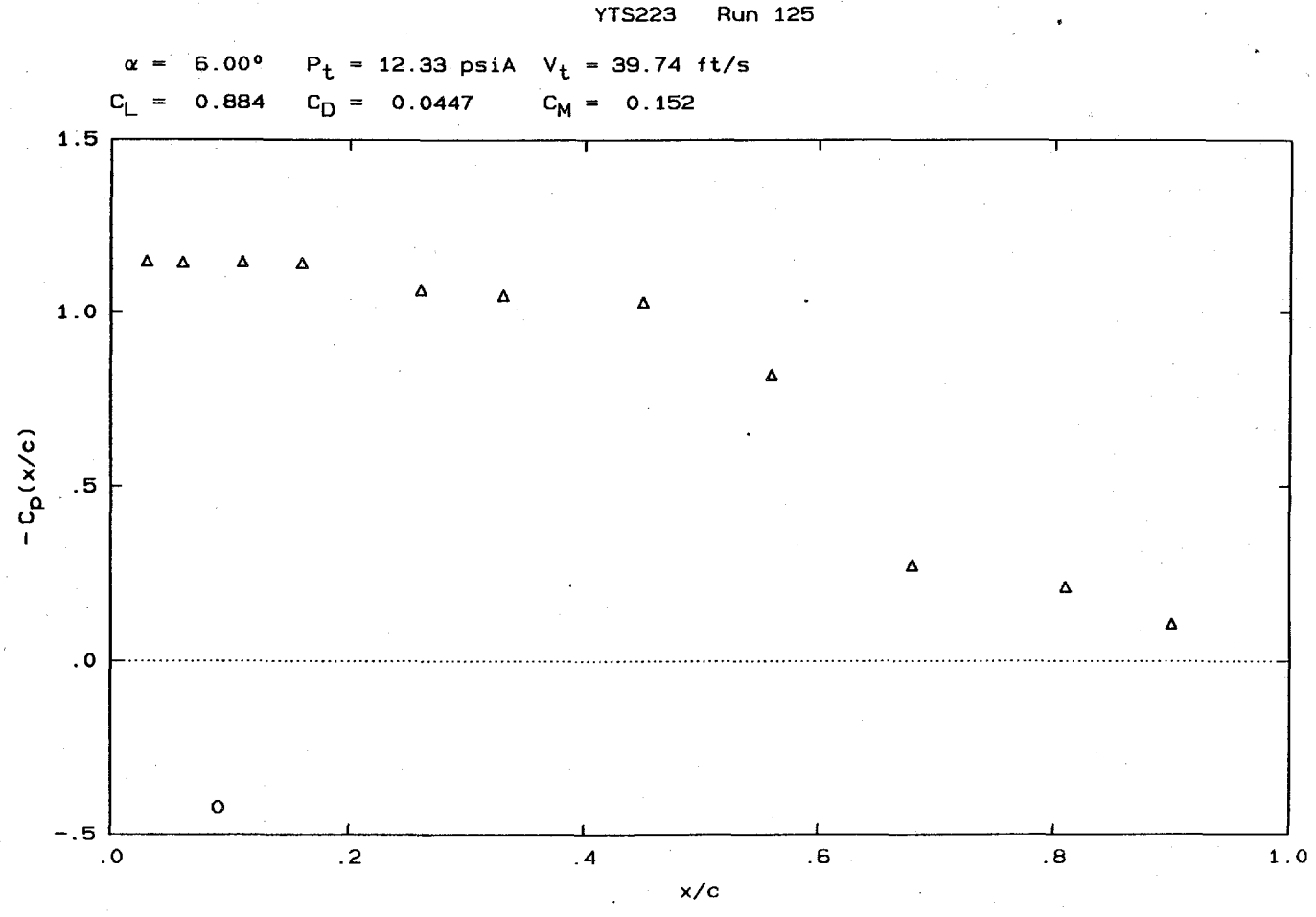
Pt = -2.23 psiG = 12.16 psiA
Pv = 10.77 Dpsi, Vt = 39.74 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 334.46 lbs, CL = 0.884
Drag = 16.90 lbs, CD = 0.0447
Moment = 28.69 ft-lbs, CM = 0.152

EOF YTS223.D03


YTS223 Run 125
α = 6.00° Pt = 12.33 psiA Vt = 39.74 ft/s
CL = 0.884 CD = 0.0447 CM = 0.152
1.5
1.0
.5
.0
-.5
- Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS224.D03      2-FEB-88
YTS224.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS224.dat     18-JUN-87
* Data processed using YTS216.off offset file and YTS026.clb calibration file
* 80% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.447 ft HgA,  = 14.42 psiA
Water temperature :  24.00  C
Water air content :   0.00  ml/lt



YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS224.D03 - Continued

Run number : 126
*
Angle of attack : 6.00 degrees
Tunnel pressure = 1.835 ftHgA = 10.81 psiA
Speed manometer = 1.971 ftHgW = 39.71 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7419	1.7285	-3.0075	-0.9922	-2.1619	-0.0129	0.8045
	0.0135	0.0153	0.3255	0.6740	1.2061	0.0081	0.0094
1	-0.7746	1.7500	-3.0229	-1.0827	-1.9587	0.0798	-2.0958
	0.0134	0.0150	0.3527	0.5903	1.0519	0.0093	0.0111
2	-0.7633	1.7436	-2.9111	-1.0920	-2.3273	0.1822	-2.1252
	0.0133	0.0139	0.3256	0.6028	1.1352	0.0055	0.0105
3	-0.7618	1.7444	-2.9518	-1.0959	-2.1596	0.2866	-2.1164
	0.0144	0.0169	0.3733	0.6376	0.9121	0.0073	0.0094
4	-0.7699	1.7431	-2.9577	-1.1623	-2.0928	0.3891	-2.1118
	0.0122	0.0140	0.3339	0.6573	0.9340	0.0101	0.0112
5	-0.7706	1.7467	-2.9836	-1.1516	-1.9604	0.4903	-2.1117
	0.0124	0.0218	0.3964	0.5707	0.9488	0.0126	0.0106
6	-0.7776	1.7524	-3.0652	-1.1736	-1.9402	0.5914	-2.1043
	0.0130	0.0180	0.3000	0.6892	0.8501	0.0132	0.0100
7	-0.7662	1.7542	-3.0337	-1.1636	-2.0635	0.6961	-2.0353
	0.0131	0.0155	0.3114	0.5749	0.9944	0.0157	0.0071
8	-0.7593	1.7397	-2.9686	-1.1031	-2.2648	0.8001	-1.9749
	0.0152	0.0142	0.3564	0.8058	1.1690	0.0203	0.0097
9	-0.7557	1.7430	-2.9891	-1.1382	-2.0970	0.9017	-1.7274
	0.0131	0.0199	0.3153	0.5695	1.1835	0.0197	0.0083
10	-0.7576	1.7370	-2.9670	-1.0006	-2.2407	1.0063	-0.7622
	0.0141	0.0145	0.3767	0.5620	1.1367	0.0210	0.0516
11	-0.7674	1.7523	-2.9816	-1.1033	-2.1625	1.1048	-0.3290
	0.0136	0.0131	0.3156	0.5438	0.8881	0.0197	0.0271
12	-0.7501	1.7346	-2.9507	-1.1005	-1.9242	1.2043	-0.2349
	0.0144	0.0153	0.3632	0.5958	1.1498	0.0217	0.0129

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.48	10.62	351.42	22.75	23.83	0.00	4.27
1	-3.64	10.75	353.25	24.83	21.54	1.00	-10.23
2	-3.59	10.71	339.83	25.13	25.68	2.00	-10.38
3	-3.58	10.72	344.71	25.19	23.80	3.00	-10.34
4	-3.62	10.71	345.41	26.73	23.04	4.00	-10.31
5	-3.62	10.73	348.52	26.45	21.56	5.00	-10.31
6	-3.66	10.77	358.32	26.95	21.33	6.00	-10.28
7	-3.60	10.78	354.54	26.74	22.71	7.00	-9.93
8	-3.57	10.69	346.74	25.37	24.97	8.00	-9.63
9	-3.55	10.71	349.19	26.16	23.09	9.00	-8.39
10	-3.56	10.67	346.55	22.96	24.71	10.00	-3.56
11	-3.61	10.77	348.29	25.36	23.83	11.00	-1.40
12	-3.52	10.66	344.57	25.26	21.16	12.00	-0.93
Averages	-3.58	10.71	348.67	25.38	23.18	6.00	-7.03

Total Forces (including tare forces) :

Lift	= 348.67 lbs,	CL =	0.916
Drag	= 25.38 lbs,	CD =	0.0666
Moment	= 23.18 ft-lbs,	CM =	0.122

Tunnel Pressure & Velocity :

Pt	= -3.58 psiG	= 10.84 psiA	
Pv	= 10.71 Dpsi,	Vt = 39.63 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.27	-0.407
1	0.030	-10.23	0.964
2	0.060	-10.38	0.982
3	0.110	-10.34	0.977
4	0.160	-10.31	0.976
5	0.260	-10.31	0.974
6	0.330	-10.28	0.967
7	0.450	-9.93	0.933
8	0.560	-9.63	0.913
9	0.680	-8.39	0.794
10	0.810	-3.56	0.338
11	0.900	-1.40	0.132
12	0.950	-0.93	0.088

*
EOR

YTS224.D03 - Continued

Run number : 225
* tare run for run 126
*
Angle of attack : 6.00 degrees
Tunnel pressure = 1.804 ftHgA = 10.63 psiA
Speed manometer = 1.995 ftHgW = 39.96 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8474	1.7845	-0.0683	-0.1246	0.0038	1.3147	0.6776
	0.0076	0.0141	0.1006	0.4351	0.1597	0.0050	0.0057
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.76	10.96	-4.16	3.15	-0.01	0.00	4.21
Averages	-3.76	10.96	-4.16	3.15	-0.01	0.00	4.21

Tare Forces :

Lift = -4.16 lbs, CL = -0.011
Drag = 3.15 lbs, CD = 0.0081
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

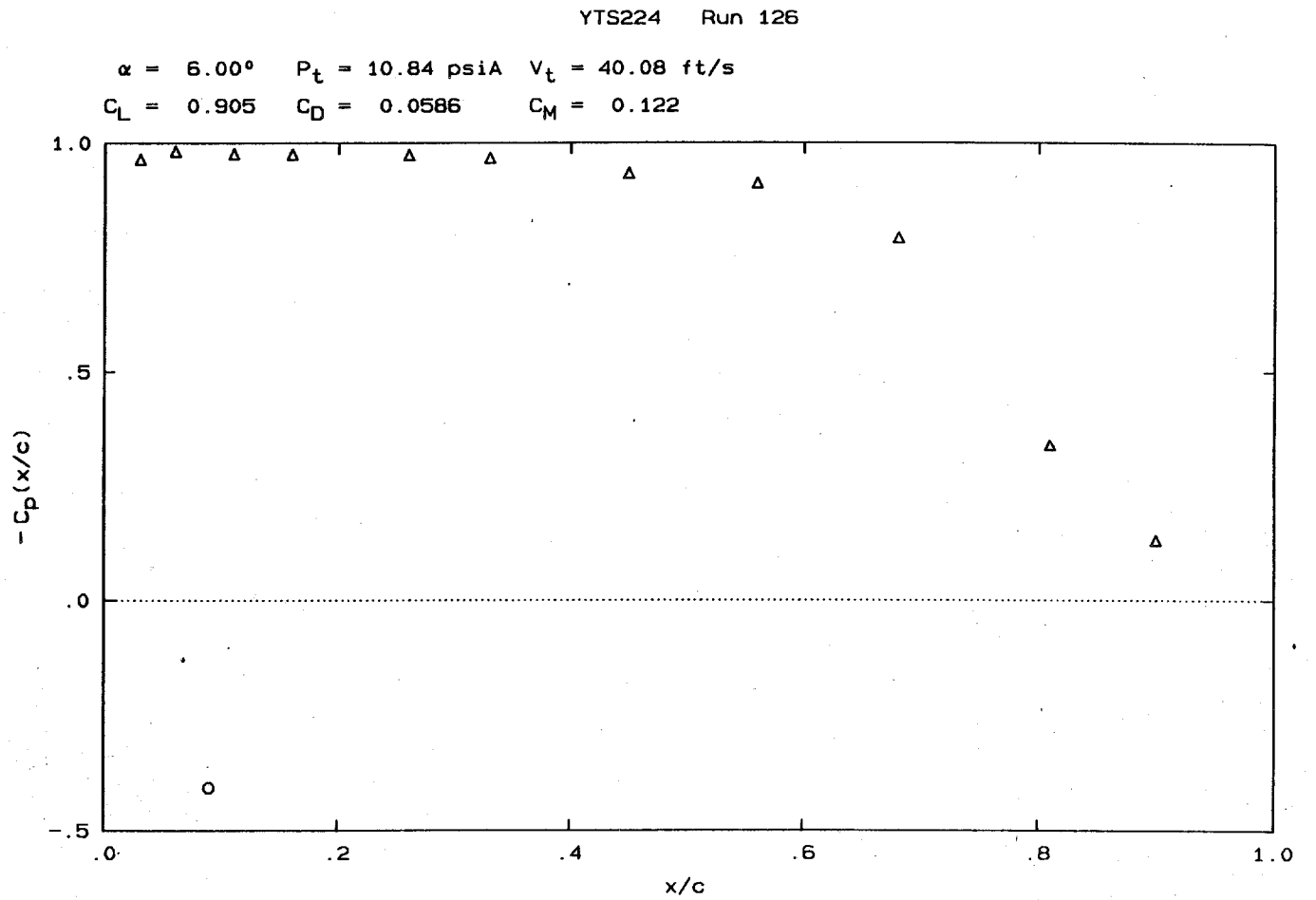
Pt = -3.76 psiG = 10.64 psiA
Pv = 10.96 Dpsi, Vt = 40.08 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 344.51 lbs, CL = 0.905
Drag = 22.23 lbs, CD = 0.0586
Moment = 23.17 ft-lbs, CM = 0.122

EOF YTS224.D03


YTS224 Run 126
α = 6.00° P_t = 10.84 psiA V_t = 40.08 ft/s
C_L = 0.905 C_D = 0.0586 C_M = 0.122
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

yts225.off 19-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.447 ft Hg (14.40 psiA)
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0396	0.0142	-0.0818	-0.0230	-0.0222	-0.0086	-0.0440
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

```
YTS226.D03      2-FEB-88
YTS226.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS226.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* cavitation inception
* 4 deg. angle
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS226.D03 - Continued

Run number : 128
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.105 ftHgA = 18.30 psiA
Speed manometer = 1.940 ftHgW = 39.40 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.7576	1.7138	-2.0829	-0.3001	-1.6632	-0.0056	0.5821
	0.0080	0.0070	0.0138	0.0426	0.0236	0.0078	0.0099
1	0.7325	1.7308	-2.1036	-0.3021	-1.6829	0.0842	-2.1404
	0.0084	0.0100	0.0153	0.0408	0.0245	0.0094	0.0115
2	0.7466	1.7187	-2.0877	-0.3011	-1.6731	0.1821	-1.8043
	0.0087	0.0067	0.0138	0.0396	0.0152	0.0096	0.0112
3	0.7476	1.7115	-2.0800	-0.3028	-1.6682	0.2817	-1.6082
	0.0095	0.0063	0.0130	0.0394	0.0193	0.0105	0.0128
4	0.7536	1.7022	-2.0678	-0.3028	-1.6549	0.3808	-1.4958
	0.0087	0.0089	0.0133	0.0433	0.0121	0.0101	0.0112
5	0.7259	1.7262	-2.0923	-0.3045	-1.6788	0.4803	-1.3827
	0.0087	0.0070	0.0129	0.0353	0.0259	0.0101	0.0117
6	0.7315	1.7237	-2.0856	-0.3068	-1.6738	0.5806	-1.3189
	0.0094	0.0077	0.0111	0.0392	0.0156	0.0110	0.0125
7	0.7234	1.7321	-2.0984	-0.3051	-1.6875	0.6815	-1.2309
	0.0090	0.0097	0.0138	0.0362	0.0174	0.0098	0.0119
8	0.7650	1.7257	-2.0880	-0.3046	-1.6770	0.7824	-1.1362
	0.0078	0.0074	0.0137	0.0358	0.0132	0.0091	0.0102
9	0.7627	1.7264	-2.0935	-0.3047	-1.6817	0.8840	-0.9722
	0.0090	0.0082	0.0137	0.0509	0.0271	0.0107	0.0113
10	0.7447	1.7418	-2.1084	-0.3069	-1.6931	0.9859	-0.6818
	0.0095	0.0113	0.0142	0.0413	0.0129	0.0099	0.0112
11	0.7609	1.7273	-2.0810	-0.3073	-1.6705	1.0874	-0.2730
	0.0090	0.0097	0.0155	0.0395	0.0143	0.0101	0.0113
12	0.7674	1.7181	-2.0786	-0.3009	-1.6741	1.1887	-0.0514
	0.0094	0.0091	0.0160	0.0334	0.0180	0.0103	0.0111

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.91	10.54	240.19	6.63	18.31	0.00	3.13
1	3.79	10.64	242.68	6.68	18.53	1.00	-10.48
2	3.86	10.57	240.77	6.66	18.42	2.00	-8.80
3	3.86	10.52	239.85	6.70	18.36	3.00	-7.82
4	3.89	10.47	238.38	6.70	18.22	4.00	-7.26
5	3.76	10.61	241.32	6.74	18.48	5.00	-6.69
6	3.78	10.60	240.52	6.79	18.43	6.00	-6.37
7	3.74	10.65	242.05	6.75	18.58	7.00	-5.93
8	3.95	10.61	240.81	6.74	18.46	8.00	-5.46
9	3.94	10.62	241.47	6.74	18.52	9.00	-4.64
10	3.85	10.71	243.25	6.80	18.64	10.00	-3.19
11	3.93	10.62	239.96	6.81	18.39	11.00	-1.14
12	3.96	10.56	239.68	6.65	18.43	12.00	-0.04
Averages	3.86	10.59	240.91	6.72	18.45	6.00	-4.98

Total Forces (including tare forces) :

Lift	= 240.91 lbs,	CL =	0.640
Drag	= 6.72 lbs,	CD =	0.0179
Moment	= 18.45 ft-lbs,	CM =	0.098

Tunnel Pressure & Velocity :

Pt	= 3.86 psiG	=	18.26 psiA
Pv	= 10.59 Dpsi,	Vt =	39.40 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.13	-0.301
1	0.030	-10.48	0.998
2	0.060	-8.80	0.844
3	0.110	-7.82	0.753
4	0.160	-7.26	0.703
5	0.260	-6.69	0.639
6	0.330	-6.37	0.609
7	0.450	-5.93	0.565
8	0.560	-5.46	0.521
9	0.680	-4.64	0.443
10	0.810	-3.19	0.302
11	0.900	-1.14	0.109
12	0.950	-0.04	0.004

*
EOR

YTS226.D03 - Continued

Run number : 226
* tare run for run 128 (yts 226)
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.065 ftHgA = 18.07 psiA
Speed manometer = 1.974 ftHgW = 39.74 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.6869	1.7342	-0.0799	-0.0421	0.0030	1.3146	-0.8473
	0.0060	0.0145	0.0079	0.0307	0.0054	0.0047	0.0076
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.77	10.65	-2.75	1.21	0.00	0.00	-3.41
Averages	3.77	10.65	-2.75	1.21	0.00	0.00	-3.41

Tare Forces :

Lift = -2.75 lbs, CL = -0.007
Drag = 1.21 lbs, CD = 0.0032
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

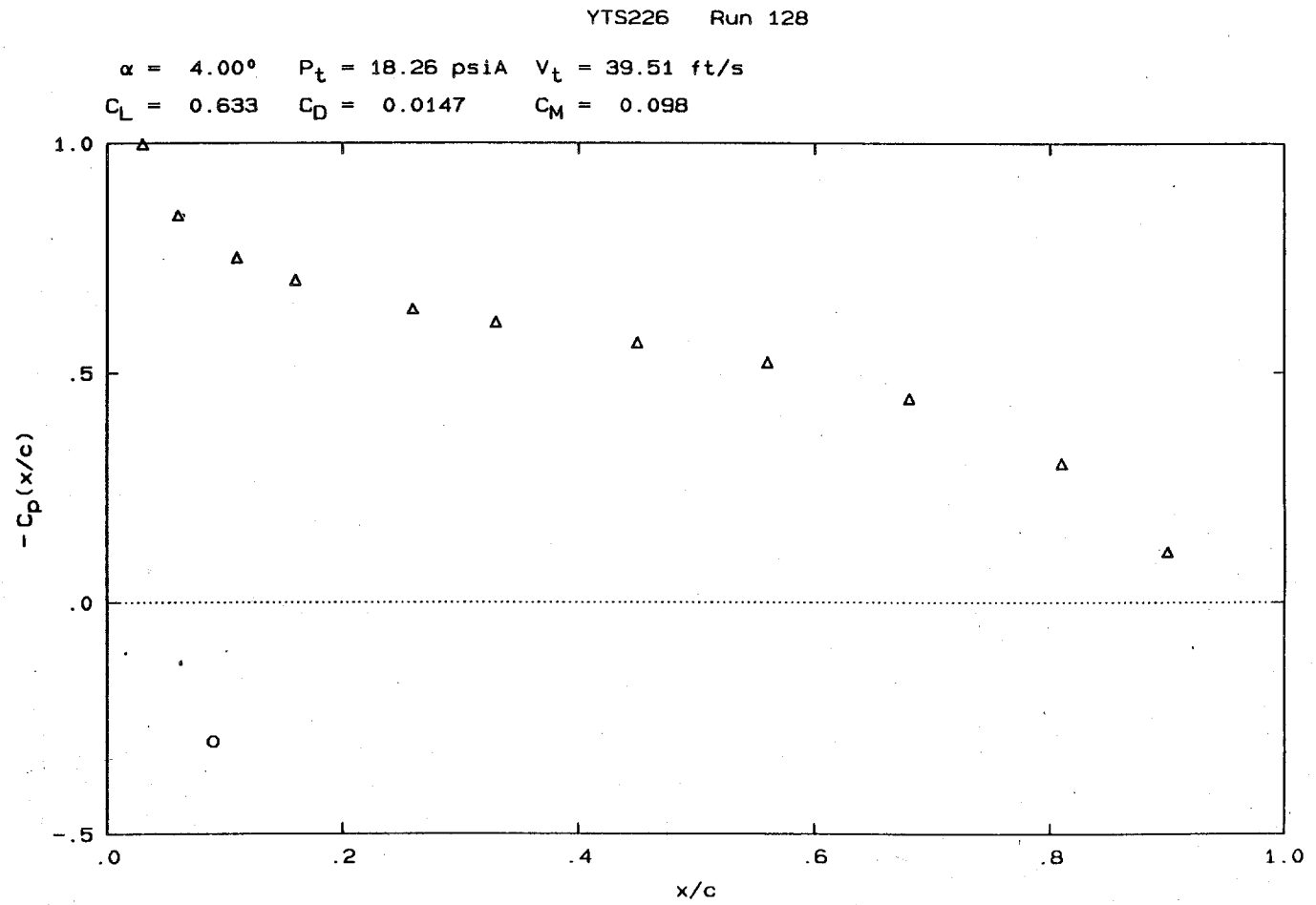
Pt = 3.77 psiG = 18.17 psiA
Pv = 10.65 Dpsi, Vt = 39.51 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 238.17 lbs, CL = 0.633
Drag = 5.52 lbs, CD = 0.0147
Moment = 18.45 ft-lbs, CM = 0.098

EOF YTS226.D03


YTS226 Run 128
α = 4.00° P_t = 18.26 psiA V_t = 39.51 ft/s
C_L = 0.633 C_D = 0.0147 C_M = 0.098
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS227.D03      2-FEB-88
YTS227.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS227.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 10% Cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,   = 14.40 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt



YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,   = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS227.D03 - Continued

Run number : 129
*
Angle of attack : 4.00 degrees
Tunnel pressure = 2.085 ftHgA = 12.29 psiA
Speed manometer = 1.936 ftHgW = 39.36 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.4954	1.7407	-2.1437	-0.3262	-1.7772	-0.0055	0.5914
	0.0075	0.0078	0.0158	0.0403	0.0299	0.0073	0.0097
1	-0.4933	1.7335	-2.1450	-0.3252	-1.7699	0.0844	-2.4113
	0.0093	0.0075	0.0148	0.0322	0.0283	0.0102	0.0135
2	-0.4878	1.7290	-2.1358	-0.3229	-1.7636	0.1824	-2.4044
	0.0091	0.0077	0.0182	0.0322	0.0132	0.0102	0.0115
3	-0.4993	1.7336	-2.1536	-0.3230	-1.7802	0.2817	-2.3478
	0.0082	0.0066	0.0175	0.0349	0.0215	0.0087	0.0082
4	-0.4968	1.7114	-2.1036	-0.3263	-1.7381	0.3811	-1.1769
	0.0084	0.0055	0.0200	0.0322	0.0188	0.0096	0.0209
5	-0.4854	1.7287	-2.1419	-0.3208	-1.7698	0.4813	-1.3443
	0.0082	0.0071	0.0146	0.0367	0.0194	0.0106	0.0125
6	-0.4979	1.7328	-2.1342	-0.3245	-1.7688	0.5821	-1.3023
	0.0090	0.0067	0.0195	0.0389	0.0345	0.0100	0.0116
7	-0.4817	1.7203	-2.1219	-0.3202	-1.7512	0.6832	-1.2201
	0.0085	0.0063	0.0133	0.0264	0.0240	0.0106	0.0109
8	-0.5011	1.7341	-2.1524	-0.3258	-1.7791	0.7846	-1.1392
	0.0082	0.0082	0.0165	0.0308	0.0250	0.0102	0.0104
9	-0.4912	1.7359	-2.1467	-0.3272	-1.7690	0.8860	-0.9768
	0.0087	0.0086	0.0186	0.0260	0.0173	0.0105	0.0114
10	-0.4845	1.7258	-2.1433	-0.3184	-1.7678	0.9876	-0.6925
	0.0094	0.0059	0.0135	0.0322	0.0175	0.0105	0.0112
11	-0.4792	1.7229	-2.1280	-0.3228	-1.7522	1.0900	-0.2840
	0.0083	0.0053	0.0156	0.0365	0.0155	0.0097	0.0102
12	-0.4904	1.7375	-2.1413	-0.3250	-1.7732	1.1918	-0.0568
	0.0112	0.0086	0.0169	0.0310	0.0140	0.0108	0.0110

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.24	10.70	247.50	7.25	19.58	0.00	3.18
1	-2.23	10.66	247.66	7.23	19.50	1.00	-11.84
2	-2.20	10.63	246.55	7.17	19.43	2.00	-11.80
3	-2.26	10.66	248.69	7.17	19.62	3.00	-11.52
4	-2.24	10.52	242.68	7.25	19.14	4.00	-5.66
5	-2.19	10.63	247.29	7.12	19.50	5.00	-6.50
6	-2.25	10.66	246.36	7.21	19.49	6.00	-6.29
7	-2.17	10.58	244.88	7.11	19.29	7.00	-5.88
8	-2.26	10.66	248.55	7.24	19.60	8.00	-5.48
9	-2.22	10.67	247.86	7.27	19.49	9.00	-4.66
10	-2.18	10.61	247.45	7.07	19.48	10.00	-3.24
11	-2.16	10.59	245.61	7.17	19.30	11.00	-1.20
12	-2.21	10.68	247.21	7.22	19.54	12.00	-0.06
Averages	-2.21	10.64	246.86	7.19	19.46	6.00	-5.46

Total Forces (including tare forces) :

Lift = 246.86 lbs, CL = 0.653
Drag = 7.19 lbs, CD = 0.0190
Moment = 19.46 ft-lbs, CM = 0.103

Tunnel Pressure & Velocity :

Pt = -2.21 psiG = 12.18 psiA
Pv = 10.64 Dpsi, Vt = 39.48 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.18	-0.301
1	0.030	-11.84	1.125
2	0.060	-11.80	1.125
3	0.110	-11.52	1.095
4	0.160	-5.66	0.545
5	0.260	-6.50	0.620
6	0.330	-6.29	0.598
7	0.450	-5.88	0.563
8	0.560	-5.48	0.520
9	0.680	-4.66	0.443
10	0.810	-3.24	0.310
11	0.900	-1.20	0.115
12	0.950	-0.06	0.006

* printed tap #4
*
EOR

Run number : 227
* tare run for run 129
*
Angle of attack : 4.00 degrees
Tunnel pressure = 2.027 ftHgA = 11.95 psiA
Speed manometer = 1.967 ftHgW = 39.67 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.5662	1.7419	-0.0797	-0.0518	0.0016	1.3147	0.3718
	0.0031	0.0058	0.0057	0.0385	0.0036	0.0047	0.0030
1	-0.5763	1.7569	-0.0801	-0.0508	0.0026	1.3148	0.3821
	0.0034	0.0072	0.0070	0.0344	0.0051	0.0050	0.0059

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.38	10.70	-2.77	1.43	0.02	0.00	2.68
1	-2.43	10.79	-2.73	1.41	0.01	1.00	2.74
Averages	-2.40	10.74	-2.75	1.42	0.01	0.50	2.71

Tare Forces :

Lift = -2.75 lbs, CL = -0.007
Drag = 1.42 lbs, CD = 0.0037
Moment = 0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

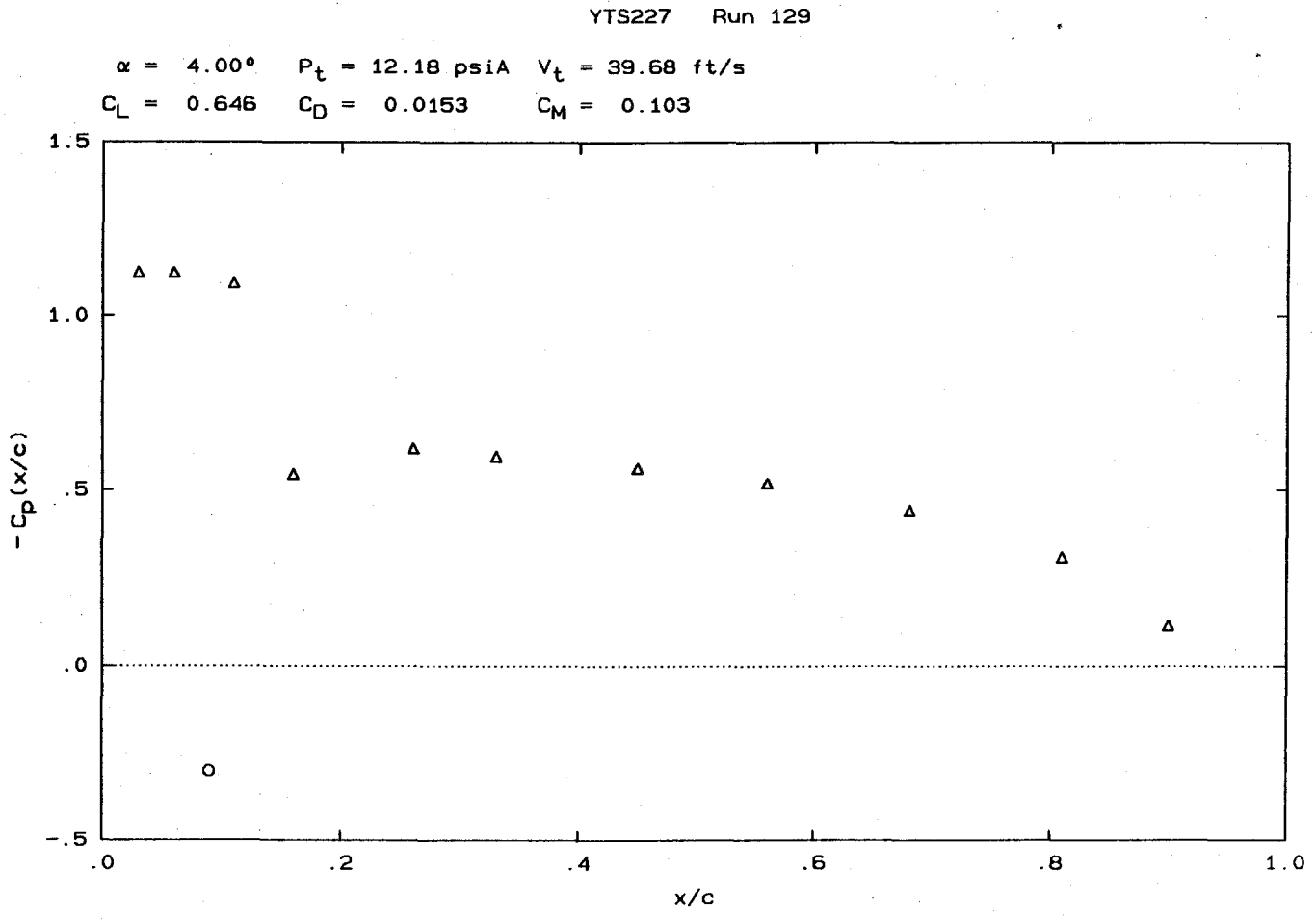
Pt = -2.40 psiG = 11.99 psiA
Pv = 10.74 Dpsi, Vt = 39.68 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 244.11 lbs, CL = 0.646
Drag = 5.77 lbs, CD = 0.0153
Moment = 19.47 ft-lbs, CM = 0.103

EOF YTS227.D03


YTS227 Run 129
α = 4.00° Pt = 12.18 psiA Vt = 39.68 ft/s
CL = 0.646 CD = 0.0153 CM = 0.103
1.5
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS228.D03      2-FEB-88
YTS228.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS228.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 25% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,   = 14.40 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt




YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,   = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS228.D03 - Continued

Run number : 130
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.850 ftHgA = 10.90 psiA
Speed manometer = 1.923 ftHgW = 39.23 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7605	1.7201	-2.1795	-0.3397	-1.8346	-0.0055	0.5847
	0.0080	0.0053	0.0122	0.0339	0.0155	0.0075	0.0096
1	-0.7610	1.7206	-2.1824	-0.3417	-1.8332	0.0840	-2.1437
	0.0085	0.0065	0.0132	0.0284	0.0187	0.0093	0.0126
2	-0.7620	1.7173	-2.1804	-0.3396	-1.8301	0.1825	-2.1922
	0.0081	0.0055	0.0110	0.0339	0.0197	0.0088	0.0086
3	-0.7691	1.7232	-2.1850	-0.3427	-1.8432	0.2823	-2.1613
	0.0080	0.0053	0.0143	0.0344	0.0288	0.0081	0.0117
4	-0.7653	1.7124	-2.1515	-0.3322	-1.8169	0.3820	-2.1446
	0.0079	0.0047	0.0165	0.0425	0.0196	0.0087	0.0117
5	-0.7723	1.7153	-2.1796	-0.3397	-1.8414	0.4818	-1.0401
	0.0086	0.0063	0.0128	0.0342	0.0216	0.0097	0.0651
6	-0.7651	1.7218	-2.1894	-0.3416	-1.8421	0.5832	-1.0920
	0.0095	0.0079	0.0130	0.0332	0.0245	0.0131	0.0159
7	-0.7733	1.7208	-2.1927	-0.3375	-1.8514	0.6851	-1.1720
	0.0079	0.0056	0.0124	0.0304	0.0144	0.0092	0.0096
8	-0.7630	1.7172	-2.1743	-0.3437	-1.8301	0.7858	-1.1131
	0.0091	0.0072	0.0118	0.0318	0.0229	0.0082	0.0094
9	-0.7766	1.7263	-2.1860	-0.3439	-1.8447	0.8879	-0.9635
	0.0084	0.0051	0.0125	0.0355	0.0213	0.0095	0.0100
10	-0.7738	1.7282	-2.2044	-0.3417	-1.8610	0.9901	-0.6925
	0.0090	0.0061	0.0123	0.0282	0.0172	0.0100	0.0104
11	-0.7734	1.7233	-2.1884	-0.3371	-1.8411	1.0923	-0.2921
	0.0084	0.0061	0.0135	0.0336	0.0171	0.0088	0.0096
12	-0.7731	1.7351	-2.2171	-0.3436	-1.8744	1.1952	-0.0622
	0.0087	0.0080	0.0136	0.0354	0.0186	0.0100	0.0100

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.54	10.58	251.81	7.57	20.22	0.00	3.14
1	-3.54	10.58	252.15	7.61	20.21	1.00	-10.50
2	-3.54	10.56	251.91	7.56	20.17	2.00	-10.74
3	-3.58	10.60	252.47	7.64	20.32	3.00	-10.59
4	-3.56	10.53	248.44	7.39	20.03	4.00	-10.50
5	-3.59	10.55	251.82	7.57	20.30	5.00	-4.98
6	-3.56	10.59	253.00	7.61	20.31	6.00	-5.24
7	-3.60	10.58	253.39	7.51	20.41	7.00	-5.64
8	-3.55	10.56	251.18	7.66	20.17	8.00	-5.35
9	-3.62	10.62	252.59	7.67	20.33	9.00	-4.60
10	-3.60	10.63	254.80	7.61	20.52	10.00	-3.24
11	-3.60	10.60	252.88	7.50	20.29	11.00	-1.24
12	-3.60	10.67	256.32	7.66	20.67	12.00	-0.09
Averages	-3.58	10.59	252.59	7.58	20.31	6.00	-5.35

YTS228.D03 Run 130 - Continued

Total Forces (including tare forces) :

Lift = 252.59 lbs, CL = 0.671
Drag = 7.58 lbs, CD = 0.0202
Moment = 20.31 ft-lbs, CM = 0.108

Tunnel Pressure & Velocity :

Pt = -3.58 psiG = 10.82 psiA
Pv = 10.59 Dpsi, Vt = 39.39 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.14	-0.301
1	0.030	-10.50	1.005
2	0.060	-10.74	1.031
3	0.110	-10.59	1.012
4	0.160	-10.50	1.011
5	0.260	-4.98	0.478
6	0.330	-5.24	0.501
7	0.450	-5.64	0.540
8	0.560	-5.35	0.513
9	0.680	-4.60	0.439
10	0.810	-3.24	0.309
11	0.900	-1.24	0.119
12	0.950	-0.09	0.009

* printed tap #5
*
EOR

YTS228.D03 - Continued

Run number : 228
* tare run for run 130
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.804 ftHgA = 10.63 psiA
Speed manometer = 1.980 ftHgW = 39.81 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8627	1.7775	-0.0784	-0.0528	0.0029	1.3146	0.6525
	0.0043	0.0055	0.0087	0.0237	0.0042	0.0050	0.0042
1	-0.8580	1.7769	-0.0788	-0.0524	0.0027	1.3147	0.6483
	0.0054	0.0070	0.0073	0.0299	0.0046	0.0048	0.0059
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.83	10.92	-2.94	1.47	0.00	0.00	4.09
1	-3.81	10.92	-2.89	1.46	0.00	1.00	4.07
Averages	-3.82	10.92	-2.91	1.46	0.00	0.50	4.08

Tare Forces :

Lift = -2.91 lbs, CL = -0.008
Drag = 1.46 lbs, CD = 0.0038
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

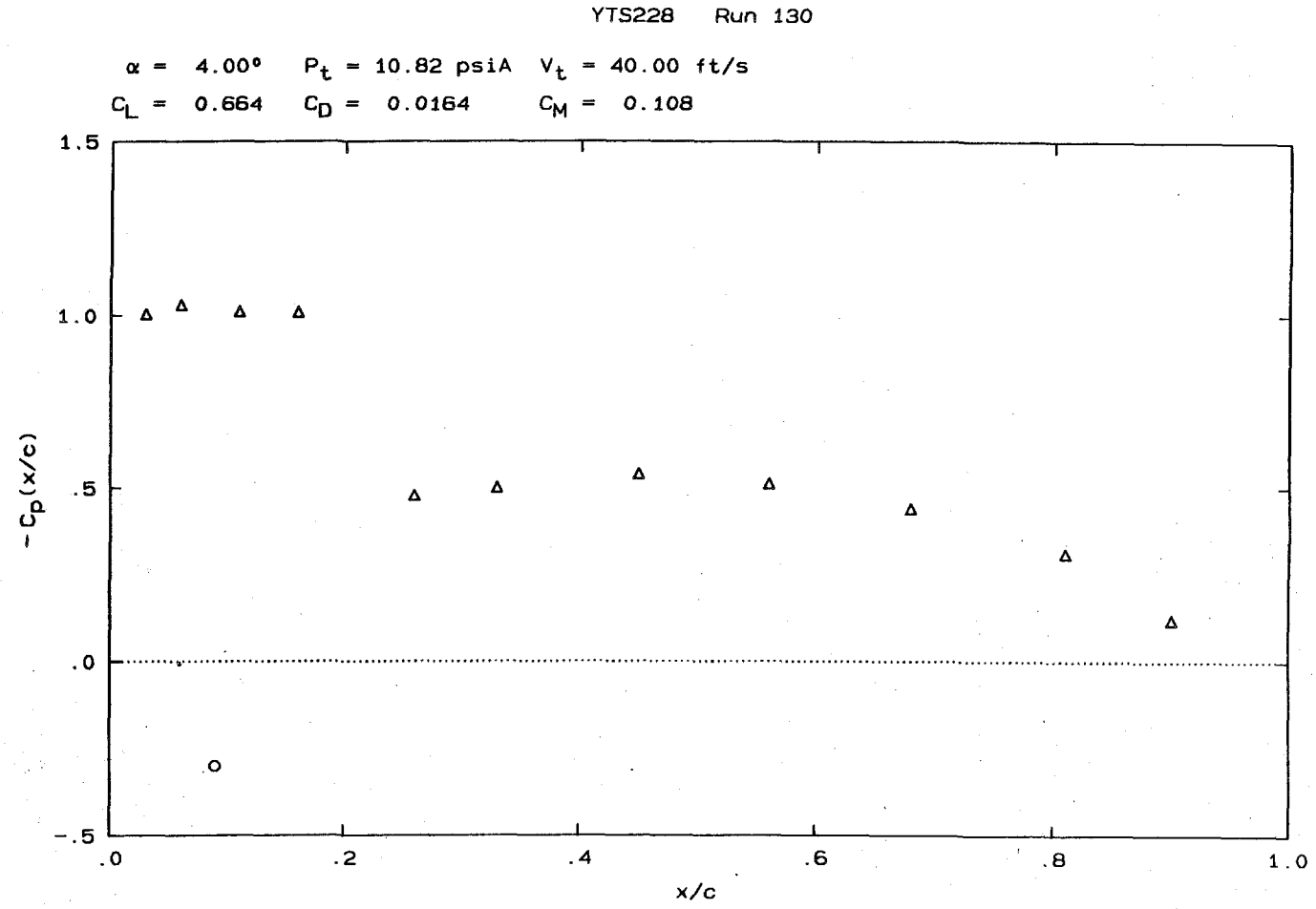
Pt = -3.82 psiG = 10.57 psiA
Pv = 10.92 Dpsi, Vt = 40.00 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 249.68 lbs, CL = 0.664
Drag = 6.12 lbs, CD = 0.0164
Moment = 20.31 ft-lbs, CM = 0.108

EOF YTS228.D03


YTS228 Run 130
α = 4.00° P_t = 10.82 psiA V_t = 40.00 ft/s
C_L = 0.664 C_D = 0.0164 C_M = 0.108
1.5
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS229.D03      2-FEB-88
YTS229.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS229.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 40% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,   = 14.40 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt



YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,   = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS229.D03 - Continued

Run number : 131
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.689 ftHgA = 9.96 psiA
Speed manometer = 1.939 ftHgW = 39.40 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.9621	1.7348	-2.3009	-0.3618	-1.9386	-0.0060	0.5969
	0.0081	0.0068	0.0202	0.0340	0.0227	0.0067	0.0092
1	-0.9319	1.7280	-2.2657	-0.3590	-1.9166	0.0835	-1.9709
	0.0078	0.0038	0.0191	0.0327	0.0498	0.0078	0.0106
2	-0.9555	1.7203	-2.2676	-0.3535	-1.9201	0.1824	-2.0013
	0.0085	0.0055	0.0177	0.0399	0.0321	0.0081	0.0116
3	-0.9430	1.7126	-2.2348	-0.3502	-1.8909	0.2819	-1.9955
	0.0077	0.0040	0.0175	0.0287	0.0380	0.0077	0.0113
4	-0.9536	1.7197	-2.2692	-0.3532	-1.9138	0.3825	-1.9984
	0.0080	0.0050	0.0195	0.0349	0.0213	0.0083	0.0114
5	-0.9357	1.7115	-2.2357	-0.3551	-1.8976	0.4829	-2.0022
	0.0094	0.0057	0.0166	0.0304	0.0337	0.0095	0.0136
6	-0.9653	1.7208	-2.2670	-0.3588	-1.9140	0.5848	-1.9396
	0.0085	0.0055	0.0157	0.0297	0.0353	0.0085	0.0109
7	-0.9426	1.7110	-2.2355	-0.3478	-1.8969	0.6860	-0.9402
	0.0079	0.0075	0.0165	0.0347	0.0225	0.0084	0.0103
8	-0.9669	1.7344	-2.2976	-0.3648	-1.9408	0.7884	-0.9274
	0.0081	0.0071	0.0197	0.0325	0.0362	0.0083	0.0222
9	-0.9777	1.7315	-2.2956	-0.3625	-1.9348	0.8907	-0.8722
	0.0079	0.0056	0.0193	0.0320	0.0293	0.0083	0.0104
10	-0.9522	1.7189	-2.2497	-0.3580	-1.9153	0.9919	-0.6617
	0.0087	0.0050	0.0182	0.0387	0.0366	0.0092	0.0087
11	-0.9700	1.7293	-2.2824	-0.3598	-1.9225	1.0949	-0.2826
	0.0087	0.0058	0.0207	0.0327	0.0325	0.0083	0.0087
12	-0.9616	1.7229	-2.2716	-0.3608	-1.9190	1.1966	-0.0664
	0.0088	0.0064	0.0216	0.0355	0.0310	0.0094	0.0096

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.53	10.67	266.39	8.08	21.38	0.00	3.20
1	-4.38	10.63	262.16	8.01	21.14	1.00	-9.63
2	-4.49	10.58	262.39	7.88	21.18	2.00	-9.79
3	-4.43	10.53	258.45	7.81	20.85	3.00	-9.76
4	-4.48	10.57	262.59	7.87	21.10	4.00	-9.77
5	-4.40	10.52	258.56	7.92	20.92	5.00	-9.79
6	-4.54	10.58	262.32	8.01	21.11	6.00	-9.48
7	-4.43	10.52	258.54	7.75	20.92	7.00	-4.48
8	-4.55	10.67	266.00	8.15	21.41	8.00	-4.42
9	-4.60	10.65	265.76	8.09	21.34	9.00	-4.14
10	-4.48	10.57	260.24	7.99	21.12	10.00	-3.09
11	-4.56	10.63	264.17	8.03	21.20	11.00	-1.19
12	-4.52	10.59	262.87	8.05	21.16	12.00	-0.11
Averages	-4.49	10.59	262.41	7.97	21.15	6.00	-5.57

Total Forces (including tare forces) :

Lift	= 262.41 lbs,	CL =	0.697
Drag	= 7.97 lbs,	CD =	0.0212
Moment	= 21.15 ft-lbs,	CM =	0.112

Tunnel Pressure & Velocity :

Pt	= -4.49 psiG	=	9.91 psiA
Pv	= 10.59 Dpsi,	Vt =	39.40 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.20	-0.304
1	0.030	-9.63	0.919
2	0.060	-9.79	0.937
3	0.110	-9.76	0.939
4	0.160	-9.77	0.936
5	0.260	-9.79	0.943
6	0.330	-9.48	0.908
7	0.450	-4.48	0.432
8	0.560	-4.42	0.420
9	0.680	-4.14	0.394
10	0.810	-3.09	0.296
11	0.900	-1.19	0.114
12	0.950	-0.11	0.011

* printed tap #7 (fluctuating)
* repeated #3
*
EOR

YTS229.D03 - Continued

Run number : 229
* tare run for run 131
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.629 ftHgA = 9.60 psiA
Speed manometer = 1.986 ftHgW = 39.87 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.0448	1.7567	-0.0782	-0.0550	0.0027	1.3147	0.8337
	0.0056	0.0070	0.0093	0.0309	0.0043	0.0050	0.0045
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.72	10.79	-2.96	1.51	0.00	0.00	4.99
Averages	-4.72	10.79	-2.96	1.51	0.00	0.00	4.99

Tare Forces :

Lift = -2.96 lbs, CL = -0.008
Drag = 1.51 lbs, CD = 0.0039
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

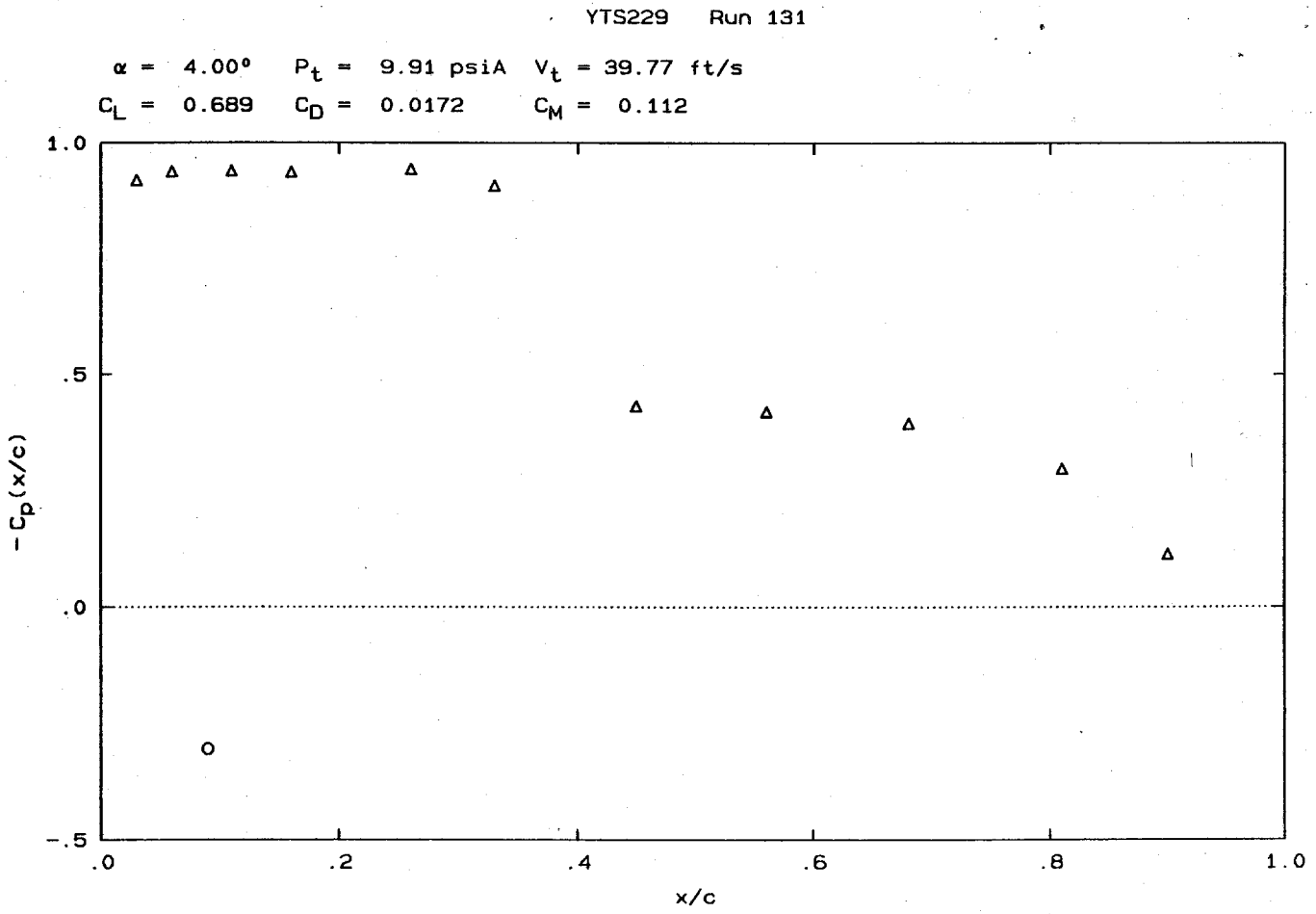
Pt = -4.72 psiG = 9.67 psiA
Pv = 10.79 Dpsi, Vt = 39.77 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 259.46 lbs, CL = 0.689
Drag = 6.46 lbs, CD = 0.0172
Moment = 21.15 ft-lbs, CM = 0.112

EOF YTS229.D03


YTS229 Run 131
α = 4.00° P_t = 9.91 psiA V_t = 39.77 ft/s
C_L = 0.689 C_D = 0.0172 C_M = 0.112
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS230.D03      2-FEB-88
YTS230.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS230.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 60% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS230.D03 - Continued

Run number : 132
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.563 ftHgA = 9.21 psiA
Speed manometer = 1.940 ftHgW = 39.40 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.0833	1.7132	-2.3273	-0.3921	-1.8914	-0.0060	0.5896
	0.0084	0.0043	0.0246	0.0351	0.1120	0.0074	0.0097
1	-1.1023	1.7161	-2.3427	-0.4100	-1.8774	0.0838	-1.7632
	0.0081	0.0067	0.0267	0.0475	0.0506	0.0078	0.0105
2	-1.1071	1.7178	-2.3410	-0.4106	-1.8611	0.1825	-1.8953
	0.0082	0.0050	0.0301	0.0380	0.0534	0.0086	0.0100
3	-1.0942	1.7078	-2.3118	-0.3927	-1.8736	0.2825	-1.8596
	0.0091	0.0059	0.0243	0.0377	0.1262	0.0081	0.0113
4	-1.1094	1.7181	-2.3393	-0.4114	-1.8754	0.3826	-1.8311
	0.0086	0.0042	0.0280	0.0366	0.0934	0.0087	0.0111
5	-1.1092	1.7145	-2.3378	-0.4076	-1.8550	0.4826	-1.8230
	0.0085	0.0051	0.0303	0.0347	0.1039	0.0089	0.0112
6	-1.1091	1.7366	-2.3760	-0.4215	-1.8598	0.5836	-1.8327
	0.0086	0.0075	0.0275	0.0491	0.0767	0.0090	0.0110
7	-1.0742	1.7265	-2.3453	-0.4005	-1.8927	0.6861	-1.8129
	0.0089	0.0054	0.0293	0.0417	0.0746	0.0080	0.0098
8	-1.0913	1.7289	-2.3413	-0.4032	-1.8817	0.7869	-1.6244
	0.0076	0.0054	0.0268	0.0409	0.0785	0.0099	0.0113
9	-1.0863	1.7242	-2.3562	-0.4000	-1.8862	0.8892	-0.7284
	0.0091	0.0067	0.0321	0.0391	0.0631	0.0085	0.0355
10	-1.0897	1.7018	-2.2984	-0.3860	-1.8820	0.9915	-0.5565
	0.0071	0.0081	0.0228	0.0394	0.0851	0.0088	0.0096
11	-1.0859	1.7179	-2.3268	-0.3906	-1.8987	1.0944	-0.2410
	0.0087	0.0059	0.0268	0.0379	0.0554	0.0088	0.0106
12	-1.0969	1.7362	-2.3604	-0.4104	-1.9080	1.1962	-0.0404
	0.0105	0.0069	0.0361	0.0465	0.0602	0.0089	0.0101

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.12	10.53	269.56	8.77	20.85	0.00	3.17
1	-5.21	10.55	271.41	9.18	20.69	1.00	-8.60
2	-5.24	10.56	271.21	9.19	20.51	2.00	-9.26
3	-5.17	10.50	267.70	8.78	20.65	3.00	-9.08
4	-5.25	10.56	271.00	9.21	20.67	4.00	-8.94
5	-5.25	10.54	270.82	9.12	20.44	5.00	-8.89
6	-5.25	10.68	275.41	9.44	20.49	6.00	-8.94
7	-5.08	10.62	271.72	8.96	20.86	7.00	-8.84
8	-5.16	10.63	271.24	9.03	20.74	8.00	-7.90
9	-5.14	10.60	273.03	8.95	20.79	9.00	-3.42
10	-5.15	10.46	266.09	8.63	20.75	10.00	-2.56
11	-5.13	10.56	269.50	8.73	20.93	11.00	-0.99
12	-5.19	10.68	273.54	9.20	21.03	12.00	0.02
Averages	-5.18	10.58	271.02	9.02	20.73	6.00	-5.71

Total Forces (including tare forces) :

Lift	= 271.02 lbs,	CL =	0.721
Drag	= 9.02 lbs,	CD =	0.0240
Moment	= 20.73 ft-lbs,	CM =	0.110

Tunnel Pressure & Velocity :

Pt	= -5.18 psiG	=	9.22 psiA
Pv	= 10.58 Dpsi,	Vt =	39.37 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.17	-0.305
1	0.030	-8.60	0.825
2	0.060	-9.26	0.888
3	0.110	-9.08	0.876
4	0.160	-8.94	0.857
5	0.260	-8.89	0.855
6	0.330	-8.94	0.849
7	0.450	-8.84	0.844
8	0.560	-7.90	0.753
9	0.680	-3.42	0.327
10	0.810	-2.56	0.248
11	0.900	-0.99	0.094
12	0.950	0.02	-0.002

* printed out tap #9
*
EOR

YTS230.D03 - Continued

Run number : 230
* tare run for run 132
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.515 ftHgA = 8.93 psiA
Speed manometer = 1.996 ftHgW = 39.97 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1654	1.7496	-0.0773	-0.0588	0.0037	1.3147	0.9587
	0.0037	0.0073	0.0067	0.0403	0.0049	0.0049	0.0062
1	-1.1842	1.7641	-0.0765	-0.0593	0.0034	1.3147	0.9828
	0.0076	0.0066	0.0079	0.0327	0.0087	0.0050	0.0095

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.32	10.75	-3.06	1.60	-0.01	0.00	5.62
1	-5.41	10.84	-3.16	1.62	0.00	1.00	5.74
Averages	-5.36	10.79	-3.11	1.61	-0.01	0.50	5.68

Tare Forces :

Lift = -3.11 lbs, CL = -0.008
Drag = 1.61 lbs, CD = 0.0042
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

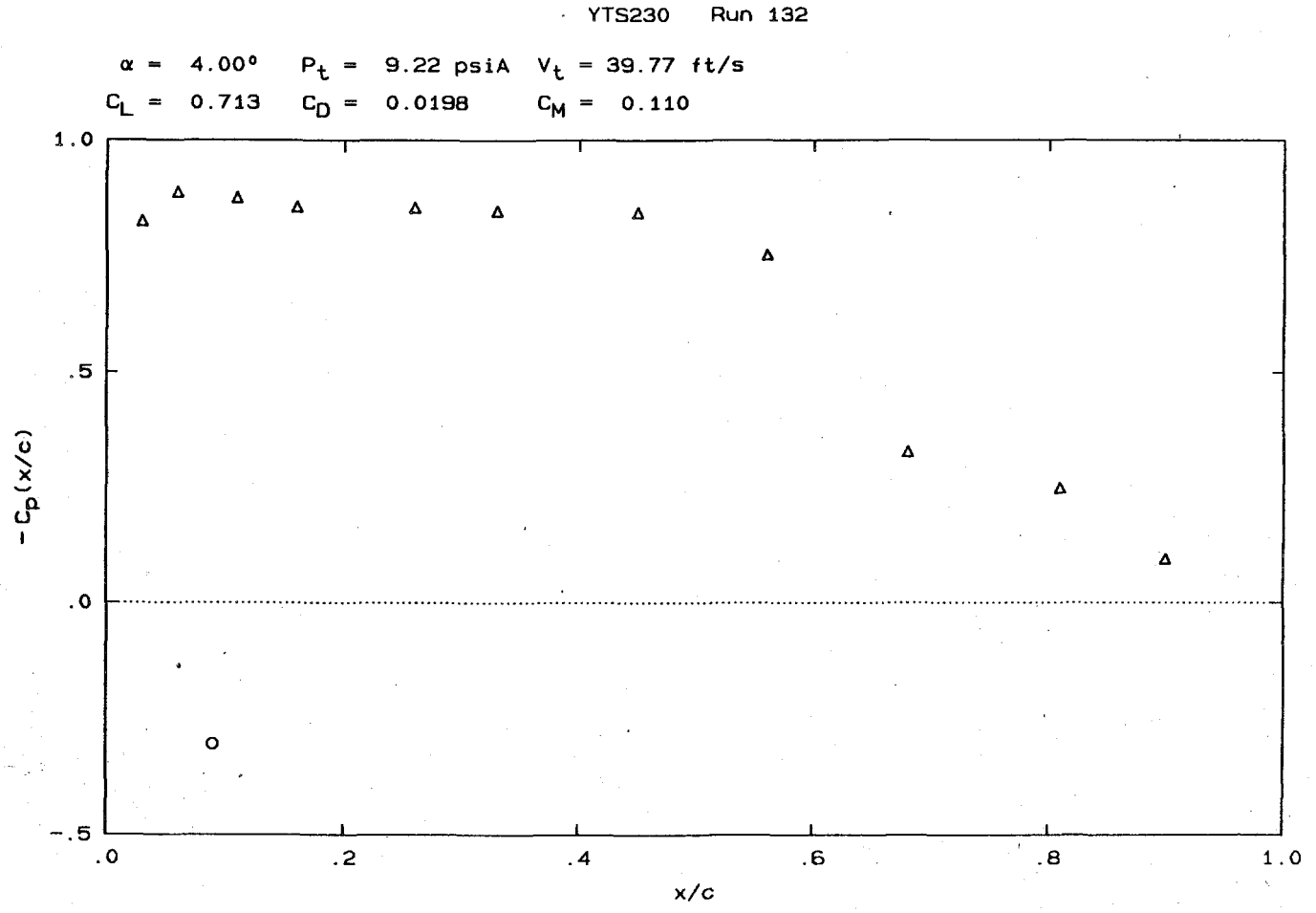
Pt = -5.36 psiG = 9.03 psiA
Pv = 10.79 Dpsi, Vt = 39.77 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 267.91 lbs, CL = 0.713
Drag = 7.41 lbs, CD = 0.0198
Moment = 20.72 ft-lbs, CM = 0.110

EOF YTS230.D03


YTS230 Run 132
α = 4.00° Pt = 9.22 psiA Vt = 39.77 ft/s
CL = 0.713 CD = 0.0198 CM = 0.110
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS231.D03      2-FEB-88
YTS231.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS231.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 60% cavity length
* one scan with particle removed
* (was stuck between model and the wall
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   9.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS231.D03 - Continued

Run number : 133
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.564 ftHgA = 9.22 psiA
Speed manometer = 1.934 ftHgW = 39.35 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1025	1.7070	-2.3347	-0.3987	-1.8718	1.2956	-0.3764
	0.0077	0.0062	0.0235	0.0483	0.0834	0.0095	0.0095
1	-1.0857	1.6942	-2.2830	-0.3729	-1.8809	1.2962	-0.3938
	0.0078	0.0077	0.0200	0.0447	0.0443	0.0085	0.0092

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.21	10.50	270.45	8.92	20.63	0.00	-1.66
1	-5.13	10.42	264.25	8.32	20.73	1.00	-1.75
Averages	-5.17	10.46	267.42	8.62	20.69	0.50	-1.71

Total Forces (including tare forces) :

Lift	= 267.42 lbs,	CL =	0.720
Drag	= 8.62 lbs,	CD =	0.0232
Moment	= 20.69 ft-lbs,	CM =	0.111

Tunnel Pressure & Velocity :

Pt	= -5.17 psiG	=	9.23 psiA
Pv	= 10.46 Dpsi,	Vt =	39.15 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.66	0.160
1	0.030	-1.75	0.170

*
No tare data available
EOR
EOF
EOF YTS231.D03

```
YTS232.D03      3-FEB-88
YTS232.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS232.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 80% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

Run number : 134
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.467 ftHgA = 8.65 psiA
Speed manometer = 1.946 ftHgW = 39.46 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2398	1.7415	-2.3882	-0.6162	-1.5487	-0.0076	0.5699
	0.0088	0.0097	0.2930	0.2942	0.5614	0.0078	0.0107
1	-1.2463	1.7492	-2.4078	-0.6576	-1.4556	0.0840	-1.6099
	0.0074	0.0092	0.3027	0.2716	0.3851	0.0082	0.0102
2	-1.2473	1.7492	-2.3871	-0.6258	-1.5409	0.1827	-1.7123
	0.0070	0.0098	0.2913	0.3122	0.6529	0.0076	0.0084
3	-1.2363	1.7296	-2.3112	-0.5404	-1.6226	0.2821	-1.6973
	0.0082	0.0053	0.3095	0.2210	0.3339	0.0077	0.0104
4	-1.2402	1.7345	-2.3342	-0.5758	-1.4943	0.3835	-1.7428
	0.0080	0.0073	0.2854	0.2593	0.6664	0.0086	0.0124
5	-1.2318	1.7243	-2.3886	-0.5830	-1.5113	0.4816	-1.7256
	0.0086	0.0048	0.1623	0.1954	0.3544	0.0075	0.0075
6	-1.2232	1.7119	-2.3386	-0.5085	-1.6434	0.5820	-1.7220
	0.0078	0.0044	0.1682	0.1358	0.2841	0.0077	0.0072
7	-1.2251	1.7177	-2.3554	-0.5514	-1.6138	0.6828	-1.7061
	0.0084	0.0049	0.2451	0.1965	0.2588	0.0082	0.0090
8	-1.2418	1.7278	-2.3464	-0.6083	-1.4301	0.7855	-1.5751
	0.0077	0.0055	0.3252	0.2703	0.6296	0.0103	0.0088
9	-1.2687	1.7515	-2.3508	-0.6507	-1.4550	0.8867	-1.3458
	0.0090	0.0128	0.2958	0.3218	0.6305	0.0120	0.0120
10	-1.2579	1.7438	-2.3748	-0.6516	-1.4373	0.9844	-0.9143
	0.0074	0.0095	0.2853	0.2672	0.4181	0.0110	0.0132
11	-1.2535	1.7267	-2.3398	-0.5993	-1.5479	1.0898	-0.4219
	0.0073	0.0055	0.2875	0.2405	0.5711	0.0127	0.0191
12	-1.2663	1.7371	-2.3281	-0.6098	-1.4856	1.1900	-0.2692
	0.0087	0.0088	0.3586	0.3001	0.6367	0.0148	0.0176

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.89	10.71	276.84	13.95	16.99	0.00	3.07
1	-5.92	10.76	279.19	14.91	15.95	1.00	-7.83
2	-5.92	10.76	276.71	14.18	16.91	2.00	-8.34
3	-5.87	10.64	267.60	12.20	17.83	3.00	-8.27
4	-5.89	10.67	270.36	13.01	16.39	4.00	-8.49
5	-5.85	10.60	276.89	13.17	16.58	5.00	-8.41
6	-5.81	10.53	270.90	11.45	18.06	6.00	-8.39
7	-5.82	10.56	272.91	12.45	17.73	7.00	-8.31
8	-5.90	10.62	271.82	13.76	15.67	8.00	-7.66
9	-6.03	10.77	272.34	14.76	15.94	9.00	-6.51
10	-5.98	10.72	275.22	14.77	15.74	10.00	-4.35
11	-5.96	10.62	271.03	13.56	16.99	11.00	-1.89
12	-6.02	10.68	269.62	13.81	16.29	12.00	-1.13
Averages	-5.91	10.66	273.27	13.53	16.71	6.00	-5.88

Total Forces (including tare forces) :

Lift	= 273.27 lbs,	CL =	0.721
Drag	= 13.53 lbs,	CD =	0.0357
Moment	= 16.71 ft-lbs,	CM =	0.088

Tunnel Pressure & Velocity :

Pt	= -5.91 psiG	=	8.49 psiA
Pv	= 10.66 Dpsi,	Vt =	39.53 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.07	-0.290
1	0.030	-7.83	0.737
2	0.060	-8.34	0.786
3	0.110	-8.27	0.788
4	0.160	-8.49	0.807
5	0.260	-8.41	0.803
6	0.330	-8.39	0.808
7	0.450	-8.31	0.797
8	0.560	-7.66	0.730
9	0.680	-6.51	0.612
10	0.810	-4.35	0.411
11	0.900	-1.89	0.180
12	0.950	-1.13	0.107

* large fluctucations
* printed tap #12
*
EOR

Run number : 231
* tare run for run 134
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.410 ftHgA = 8.31 psiA
Speed manometer = 1.975 ftHgW = 39.76 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.3284	1.7650	-0.0748	-0.0614	0.0037	1.3146	1.1306
	0.0041	0.0069	0.0099	0.0372	0.0039	0.0050	0.0038
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-6.11	10.84	-3.37	1.66	-0.01	0.00	6.48
Averages	-6.11	10.84	-3.37	1.67	-0.01	0.00	6.48

Tare Forces :

Lift = -3.37 lbs, CL = -0.009
Drag = 1.67 lbs, CD = 0.0043
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

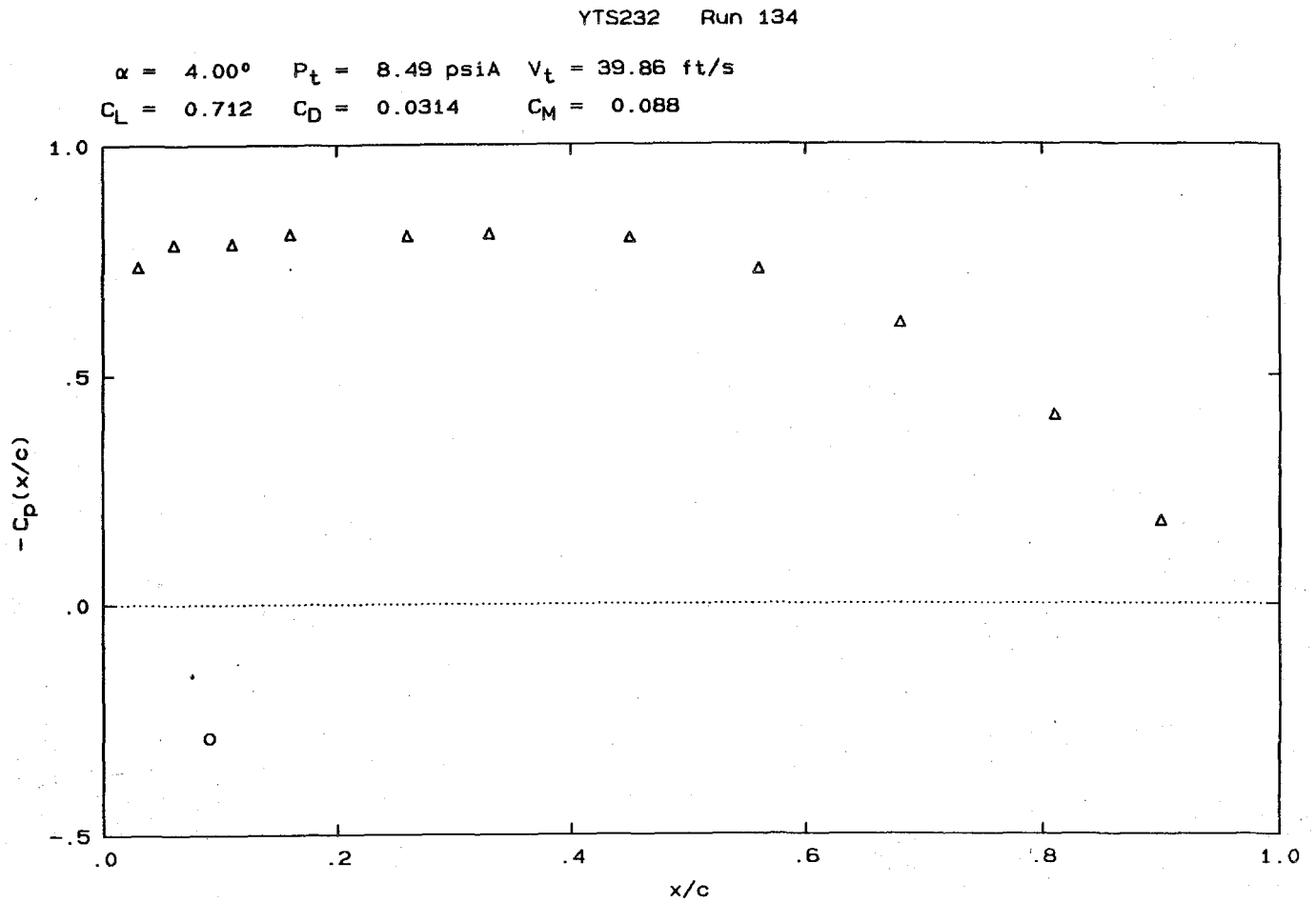
Pt = -6.11 psiG = 8.28 psiA
Pv = 10.84 Dpsi, Vt = 39.86 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 269.90 lbs, CL = 0.712
Drag = 11.87 lbs, CD = 0.0314
Moment = 16.70 ft-lbs, CM = 0.088

EOF YTS232.D03


YTS232 Run 134
α = 4.00° Pt = 8.49 psiA Vt = 39.86 ft/s
CL = 0.712 CD = 0.0314 CM = 0.088
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS233.D03 3-FEB-88
YTS233.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS233.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* fully wetted
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS233.D03 - Continued

Run number : 135
*
Angle of attack : 4.00 degrees
Tunnel pressure = 4.485 ftHgA = 26.43 psiA
Speed manometer = 1.960 ftHgW = 39.60 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.4485	1.7175	-2.0623	-0.2925	-1.6212	-0.0055	0.5314
	0.0104	0.0105	0.0146	0.0371	0.0268	0.0067	0.0117
1	2.4120	1.7135	-2.0542	-0.2899	-1.6159	0.0843	-2.0885
	0.0112	0.0111	0.0151	0.0491	0.0128	0.0073	0.0125
2	2.3904	1.7028	-2.0388	-0.2872	-1.6100	0.1823	-1.7571
	0.0091	0.0113	0.0136	0.0462	0.0134	0.0061	0.0115
3	2.4529	1.7205	-2.0679	-0.2946	-1.6271	0.2816	-1.5864
	0.0095	0.0098	0.0155	0.0356	0.0203	0.0070	0.0113
4	2.6921	1.7195	-2.0615	-0.2920	-1.6182	0.3808	-1.4836
	0.0116	0.0112	0.0138	0.0468	0.0117	0.0084	0.0121
5	2.9464	1.7206	-2.0500	-0.2929	-1.6079	0.4804	-1.3582
	0.0113	0.0098	0.0164	0.0463	0.0240	0.0079	0.0112
6	2.4512	1.7419	-2.0754	-0.2968	-1.6365	0.5810	-1.3025
	0.0099	0.0108	0.0153	0.0592	0.0082	0.0073	0.0124
7	2.4480	1.7381	-2.0755	-0.3013	-1.6328	0.6820	-1.2152
	0.0096	0.0117	0.0176	0.0535	0.0161	0.0080	0.0119
8	2.4725	1.7170	-2.0605	-0.2908	-1.6192	0.7826	-1.1176
	0.0110	0.0088	0.0134	0.0574	0.0221	0.0080	0.0122
9	2.4727	1.7096	-2.0491	-0.2906	-1.6103	0.8835	-0.9421
	0.0117	0.0091	0.0174	0.0463	0.0228	0.0069	0.0108
10	2.4474	1.7285	-2.0718	-0.2992	-1.6302	0.9852	-0.6740
	0.0085	0.0090	0.0163	0.0474	0.0170	0.0074	0.0105
11	2.4479	1.7237	-2.0639	-0.2939	-1.6208	1.0872	-0.2658
	0.0087	0.0074	0.0140	0.0549	0.0168	0.0066	0.0103
12	2.4546	1.7226	-2.0682	-0.2954	-1.6265	1.1885	-0.0458
	0.0092	0.0081	0.0149	0.0556	0.0165	0.0086	0.0104

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	12.21	10.56	237.72	6.45	17.84	0.00	2.88
1	12.03	10.54	236.74	6.39	17.78	1.00	-10.22
2	11.92	10.47	234.90	6.33	17.71	2.00	-8.57
3	12.23	10.58	238.39	6.50	17.90	3.00	-7.71
4	13.40	10.57	237.62	6.44	17.81	4.00	-7.20
5	14.65	10.58	236.24	6.46	17.69	5.00	-6.57
6	12.22	10.71	239.29	6.56	18.01	6.00	-6.29
7	12.20	10.69	239.30	6.66	17.97	7.00	-5.86
8	12.32	10.56	237.50	6.41	17.82	8.00	-5.37
9	12.33	10.51	236.13	6.41	17.72	9.00	-4.49
10	12.20	10.63	238.86	6.61	17.94	10.00	-3.15
11	12.20	10.60	237.91	6.49	17.83	11.00	-1.11
12	12.24	10.59	238.43	6.52	17.90	12.00	-0.01
Averages	12.47	10.58	237.69	6.48	17.85	6.00	-4.90

Total Forces (including tare forces) :

Lift	= 237.69 lbs,	CL =	0.632
Drag	= 6.48 lbs,	CD =	0.0172
Moment	= 17.85 ft-lbs,	CM =	0.095

Tunnel Pressure & Velocity :

Pt	= 12.47 psiG	= 26.87 psiA	
Pv	= 10.58 Dpsi,	Vt = 39.38 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.88	-0.276
1	0.030	-10.22	0.983
2	0.060	-8.57	0.829
3	0.110	-7.71	0.739
4	0.160	-7.20	0.690
5	0.260	-6.57	0.629
6	0.330	-6.29	0.595
7	0.450	-5.86	0.555
8	0.560	-5.37	0.515
9	0.680	-4.49	0.433
10	0.810	-3.15	0.300
11	0.900	-1.11	0.106
12	0.950	-0.01	0.001

* fully wetted flow
*
EOR
EOF
EOF YTS233.D03

```
YTS234.D03      3-FEB-88
YTS234.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS234.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 25% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,   = 14.40 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt




YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,   = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS234.D03 - Continued

Run number : 136
* cavitation number at 0.996
*
Angle of attack : 4.00 degrees
Tunnel pressure = 0.897 ftHgA = 5.29 psiA
Speed manometer = 0.878 ftHgW = 26.51 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.8924	0.7889	-0.9873	-0.1700	-0.8019	-0.0071	0.2305
	0.0072	0.0058	0.0069	0.0151	0.0214	0.0069	0.0091
1	-1.8986	0.7923	-0.9917	-0.1705	-0.8113	0.0843	-1.0076
	0.0087	0.0076	0.0069	0.0169	0.0078	0.0099	0.0102
2	-1.8927	0.7880	-0.9773	-0.1729	-0.7964	0.1830	-1.0121
	0.0081	0.0072	0.0080	0.0137	0.0105	0.0102	0.0102
3	-1.8914	0.7875	-0.9798	-0.1711	-0.7943	0.2819	-1.0105
	0.0071	0.0063	0.0066	0.0135	0.0089	0.0095	0.0099
4	-1.8934	0.7837	-0.9750	-0.1691	-0.7940	0.3812	-0.8944
	0.0092	0.0073	0.0072	0.0118	0.0141	0.0109	0.0123
5	-1.8872	0.7802	-0.9749	-0.1693	-0.7876	0.4809	-0.6216
	0.0049	0.0060	0.0062	0.0147	0.0093	0.0081	0.0086
6	-1.8910	0.7818	-0.9786	-0.1674	-0.7899	0.5811	-0.6028
	0.0067	0.0064	0.0071	0.0134	0.0167	0.0088	0.0095
7	-1.8929	0.7840	-0.9797	-0.1681	-0.7910	0.6811	-0.5742
	0.0076	0.0059	0.0063	0.0114	0.0062	0.0086	0.0088
8	-1.8916	0.7838	-0.9848	-0.1692	-0.8006	0.7805	-0.5551
	0.0077	0.0064	0.0065	0.0171	0.0106	0.0097	0.0098
9	-1.8901	0.7813	-0.9797	-0.1678	-0.7935	0.8807	-0.4624
	0.0065	0.0064	0.0060	0.0161	0.0085	0.0086	0.0093
10	-1.8921	0.7807	-0.9746	-0.1683	-0.7908	0.9802	-0.3311
	0.0080	0.0074	0.0069	0.0150	0.0114	0.0097	0.0108
11	-1.8963	0.7864	-0.9852	-0.1721	-0.7995	1.0811	-0.1508
	0.0088	0.0069	0.0059	0.0171	0.0098	0.0107	0.0102
12	-1.9019	0.7906	-0.9957	-0.1714	-0.8071	1.1805	-0.0547
	0.0087	0.0066	0.0076	0.0127	0.0196	0.0101	0.0101

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.09	4.80	108.69	3.51	8.70	0.00	1.37
1	-9.12	4.82	109.22	3.52	8.80	1.00	-4.82
2	-9.09	4.80	107.49	3.58	8.64	2.00	-4.84
3	-9.08	4.79	107.79	3.53	8.61	3.00	-4.83
4	-9.09	4.77	107.21	3.49	8.61	4.00	-4.25
5	-9.06	4.75	107.20	3.49	8.54	5.00	-2.89
6	-9.08	4.76	107.64	3.44	8.56	6.00	-2.79
7	-9.09	4.77	107.78	3.46	8.58	7.00	-2.65
8	-9.09	4.77	108.39	3.49	8.68	8.00	-2.56
9	-9.08	4.76	107.78	3.45	8.60	9.00	-2.09
10	-9.09	4.75	107.16	3.47	8.57	10.00	-1.44
11	-9.11	4.79	108.44	3.56	8.67	11.00	-0.53
12	-9.14	4.81	109.70	3.54	8.76	12.00	-0.05
Averages	-9.09	4.78	108.07	3.50	8.64	6.00	-2.49

YTS234.D03 Run 136 - Continued

Total Forces (including tare forces) :

Lift	= 108.07 lbs,	CL =	0.636
Drag	= 3.50 lbs,	CD =	0.0206
Moment	= 8.64 ft-lbs,	CM =	0.102

Tunnel Pressure & Velocity :

Pt	= -9.09 psiG	=	5.30 psiA
Pv	= 4.78 Dpsi,	Vt =	26.47 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	1.37	-0.290
1	0.030	-4.82	1.012
2	0.060	-4.84	1.022
3	0.110	-4.83	1.021
4	0.160	-4.25	0.903
5	0.260	-2.89	0.616
6	0.330	-2.79	0.595
7	0.450	-2.65	0.563
8	0.560	-2.56	0.543
9	0.680	-2.09	0.446
10	0.810	-1.44	0.306
11	0.900	-0.53	0.113
12	0.950	-0.05	0.011

* cleaned taps and re-did #1 to 4
* printed out #4 (fluctuating)
*
EOR

YTS234.D03 - Continued

Run number : 232
* tare run for run 136
*
Angle of attack : 4.00 degrees
Tunnel pressure = 0.857 ftHgA = 5.05 psiA
Speed manometer = 0.952 ftHgW = 27.60 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.9860	0.8533	-0.0896	-0.0409	0.0016	1.3147	1.7262
	0.0076	0.0032	0.0040	0.0169	0.0040	0.0049	0.0048
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.34	5.19	-1.42	1.00	0.00	0.00	9.46
Averages	-9.34	5.19	-1.42	1.00	0.00	0.00	9.46

Tare Forces :

Lift = -1.42 lbs, CL = -0.008
Drag = 1.00 lbs, CD = 0.0054
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -9.34 psiG = 5.05 psiA
Pv = 5.19 Dpsi, Vt = 27.58 ft/s

*
EOR

Model Forces (excluding tare forces) :

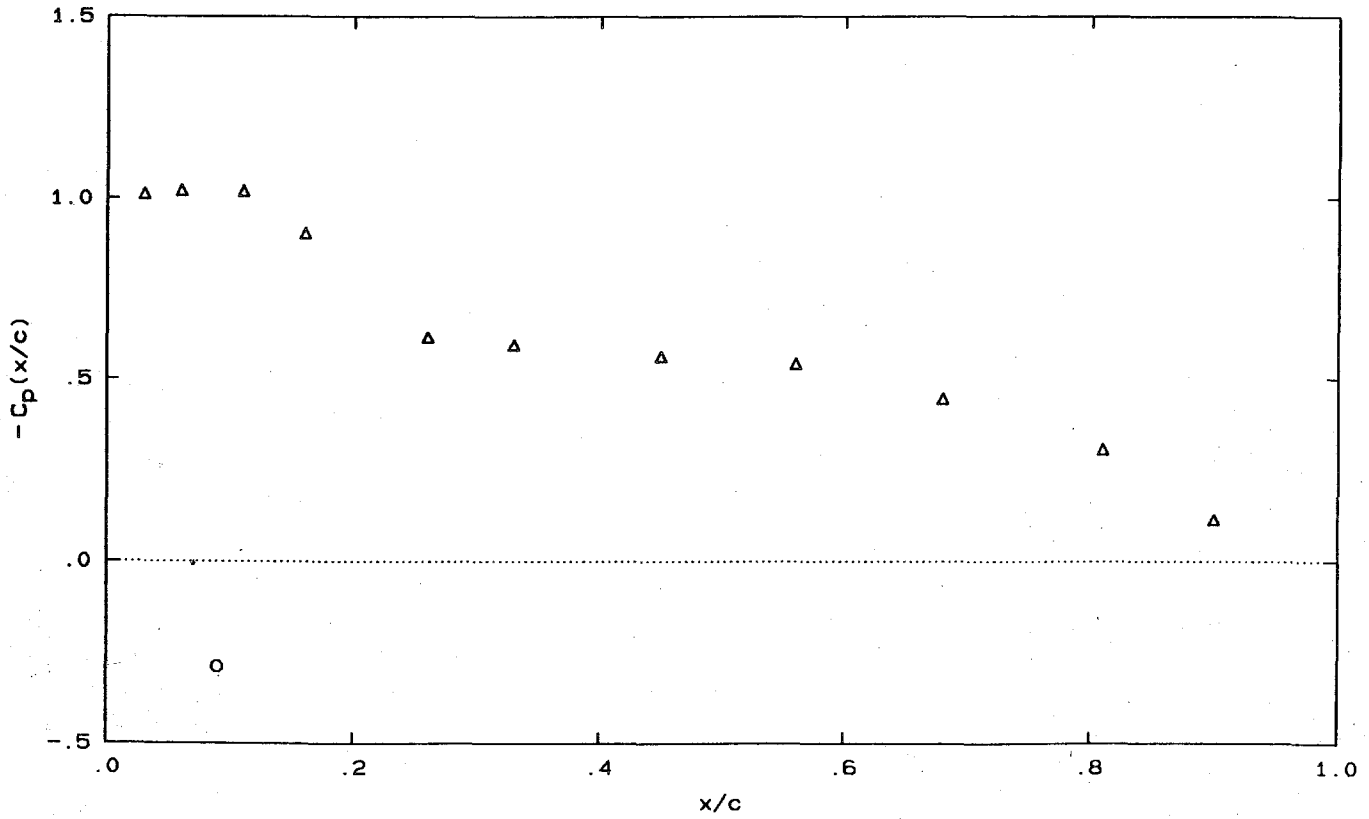
Lift = 106.64 lbs, CL = 0.628
Drag = 2.50 lbs, CD = 0.0152
Moment = 8.65 ft-lbs, CM = 0.102

EOF YTS234.D03

YTS234 Run 136

α = 4.00° P_t = 5.30 psiA V_t = 27.58 ft/s

C_L = 0.628 C_D = 0.0152 C_M = 0.102



YTS235.D03 3-FEB-88
YTS235.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS235.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 40% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS235.D03 - Continued

Run number : 137
*
Angle of attack : 4.00 degrees
Tunnel pressure = 0.834 ftHgA = 4.92 psiA
Speed manometer = 0.878 ftHgW = 26.50 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.9703	0.7866	-0.9985	-0.1731	-0.8194	-0.0072	0.2288
	0.0077	0.0062	0.0070	0.0122	0.0155	0.0077	0.0097
1	-1.9601	0.7903	-1.0049	-0.1728	-0.8244	0.0842	-0.9408
	0.0076	0.0062	0.0071	0.0113	0.0078	0.0085	0.0089
2	-1.9554	0.7952	-1.0089	-0.1753	-0.8266	0.1827	-0.9547
	0.0080	0.0063	0.0071	0.0140	0.0172	0.0080	0.0094
3	-1.9548	0.7930	-1.0045	-0.1723	-0.8248	0.2821	-0.9530
	0.0078	0.0062	0.0071	0.0151	0.0110	0.0090	0.0095
4	-1.9805	0.7955	-1.0154	-0.1771	-0.8345	0.3816	-0.9244
	0.0073	0.0072	0.0065	0.0138	0.0154	0.0094	0.0101
5	-1.9874	0.7904	-1.0067	-0.1754	-0.8301	0.4809	-0.8429
	0.0086	0.0063	0.0086	0.0118	0.0213	0.0087	0.0092
6	-1.9799	0.7890	-1.0060	-0.1750	-0.8276	0.5807	-0.4655
	0.0073	0.0065	0.0062	0.0131	0.0101	0.0091	0.0096
7	-1.9913	0.7865	-0.9991	-0.1744	-0.8212	0.6808	-0.5316
	0.0098	0.0065	0.0073	0.0144	0.0142	0.0101	0.0100
8	-1.9847	0.7899	-1.0086	-0.1748	-0.8292	0.7807	-0.5183
	0.0080	0.0063	0.0070	0.0110	0.0185	0.0085	0.0091
9	-1.9642	0.7891	-0.9988	-0.1735	-0.8187	0.8804	-0.4706
	0.0091	0.0068	0.0073	0.0151	0.0139	0.0092	0.0096
10	-1.9690	0.7955	-1.0121	-0.1770	-0.8354	0.9801	-0.3256
	0.0076	0.0068	0.0077	0.0112	0.0135	0.0088	0.0093
11	-1.9571	0.7889	-1.0006	-0.1713	-0.8219	1.0809	-0.1512
	0.0082	0.0063	0.0072	0.0146	0.0249	0.0095	0.0093
12	-1.9439	0.7865	-0.9923	-0.1721	-0.8121	1.1805	-0.0504
	0.0075	0.0062	0.0069	0.0111	0.0104	0.0096	0.0095

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.47	4.79	110.04	3.58	8.89	0.00	1.36
1	-9.42	4.81	110.80	3.57	8.95	1.00	-4.48
2	-9.40	4.84	111.28	3.63	8.97	2.00	-4.55
3	-9.40	4.83	110.76	3.56	8.95	3.00	-4.55
4	-9.52	4.84	112.06	3.67	9.06	4.00	-4.40
5	-9.56	4.81	111.02	3.63	9.01	5.00	-3.99
6	-9.52	4.80	110.94	3.62	8.98	6.00	-2.11
7	-9.58	4.79	110.11	3.61	8.91	7.00	-2.44
8	-9.54	4.81	111.25	3.62	9.00	8.00	-2.37
9	-9.44	4.80	110.07	3.59	8.89	9.00	-2.13
10	-9.47	4.84	111.67	3.67	9.07	10.00	-1.41
11	-9.41	4.80	110.29	3.54	8.92	11.00	-0.54
12	-9.34	4.79	109.29	3.56	8.81	12.00	-0.03
Averages	-9.47	4.81	110.77	3.61	8.96	6.00	-2.43

Total Forces (including tare forces) :

Lift	= 110.77 lbs,	CL =	0.648
Drag	= 3.61 lbs,	CD =	0.0211
Moment	= 8.96 ft-lbs,	CM =	0.105

Tunnel Pressure & Velocity :

Pt	= -9.47 psiG	=	4.93 psiA
Pv	= 4.81 Dpsi,	Vt =	26.56 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	1.36	-0.289
1	0.030	-4.48	0.944
2	0.060	-4.55	0.953
3	0.110	-4.55	0.954
4	0.160	-4.40	0.921
5	0.260	-3.99	0.841
6	0.330	-2.11	0.445
7	0.450	-2.44	0.516
8	0.560	-2.37	0.500
9	0.680	-2.13	0.450
10	0.810	-1.41	0.294
11	0.900	-0.54	0.113
12	0.950	-0.03	0.007

* boundary at tap 5 fluctuating
* stabilized tunnel and repeated tap 5
*
EOR

YTS235.D03 - Continued

Run number : 233
* tare run for run 137
*
Angle of attack : 4.00 degrees
Tunnel pressure = 0.791 ftHgA = 4.66 psiA
Speed manometer = 0.941 ftHgW = 27.44 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.0654	0.8463	-0.0895	-0.0425	0.0017	1.3148	1.8109
	0.0075	0.0039	0.0045	0.0208	0.0035	0.0048	0.0059
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.73	5.15	-1.44	1.03	0.00	0.00	9.88
Averages	-9.73	5.15	-1.44	1.03	0.00	0.00	9.88

Tare Forces :

Lift = -1.44 lbs, CL = -0.008
Drag = 1.03 lbs, CD = 0.0057
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

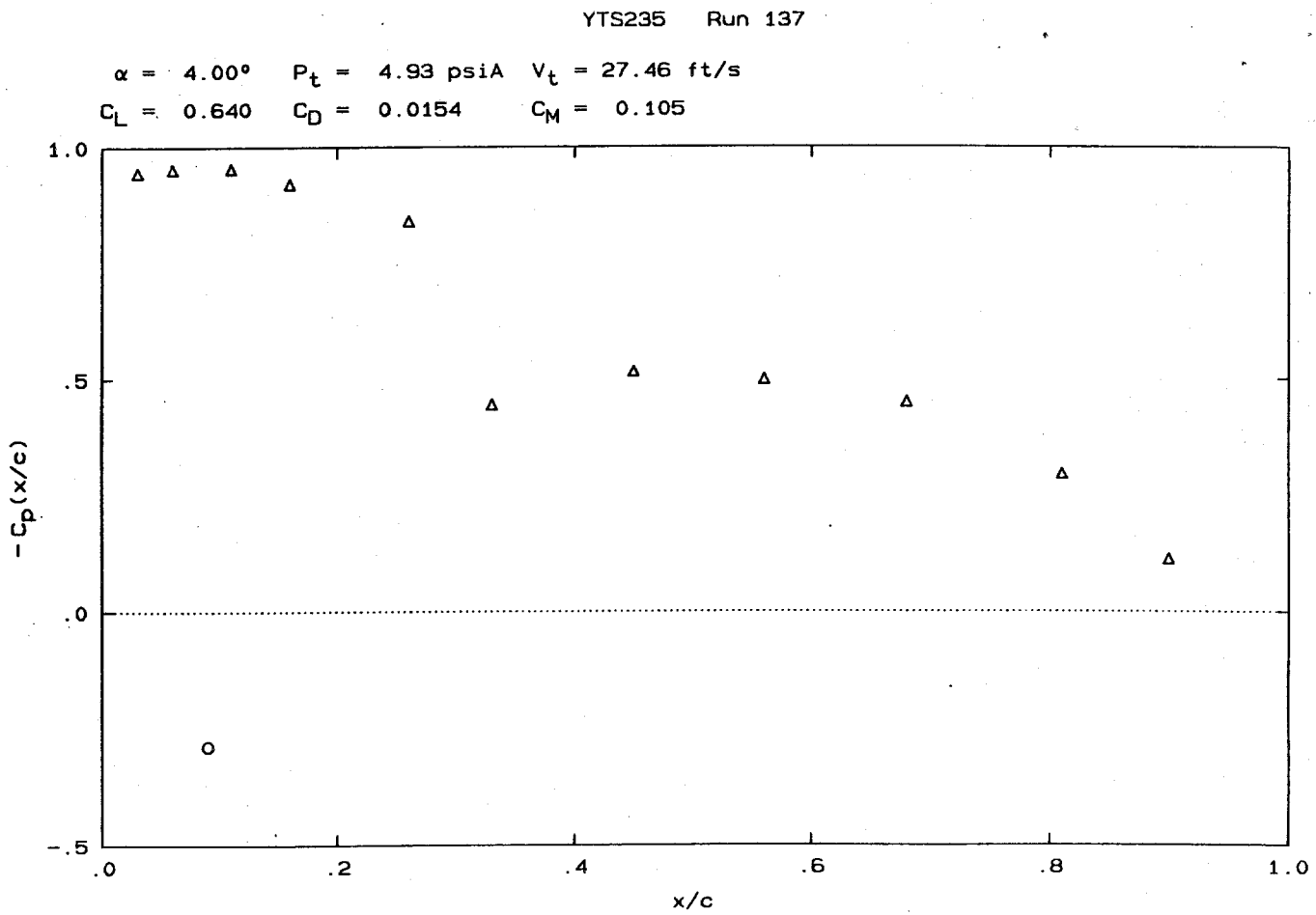
Pt = -9.73 psiG = 4.66 psiA
Pv = 5.15 Dpsi, Vt = 27.46 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 109.33 lbs, CL = 0.640
Drag = 2.57 lbs, CD = 0.0154
Moment = 8.96 ft-lbs, CM = 0.105

EOF YTS235.D03


YTS235 Run 137
α = 4.00° P_t = 4.93 psiA V_t = 27.46 ft/s
C_L = 0.640 C_D = 0.0154 C_M = 0.105
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS237.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS237.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* rerun of yts236
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

Run number : 139
*
Angle of attack : 4.00 degrees
Tunnel pressure = 0.768 ftHgA = 4.53 psiA
Speed manometer = 0.895 ftHgW = 26.77 ft/s

		GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	mean	-2.0535	0.8121	-1.0817	-0.1860	-0.8721	1.2783	1.6167
	rms	0.0081	0.0073	0.0124	0.0154	0.0357	0.0100	0.0112

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.88	4.92	120.05	3.87	9.48	0.00	8.30
Averages	-9.88	4.92	120.09	3.87	9.48	0.00	8.30

Lift = 120.09 lbs, CL = 0.687
Drag = 3.87 lbs, CD = 0.022
Moment = 9.48 ft-lbs, CM = 0.109
Pt = -9.88 psiG = 4.52 psiA
Pv = 4.92 Dpsi, Vt = 26.85 ft/s

Tap	x/c	psi	-Cp
0	0.090	8.30	-1.711

*
EOR
EOF

YTS238.D03 3-FEB-88
YTS238.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS238.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* for 60 f/s
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS238.D03 - Continued

Run number : 140
*
Angle of attack : 4.00 degrees
Tunnel pressure = 2.428 ftHgA = 14.31 psiA
Speed manometer = 0.895 ftHgW = 26.76 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.1060	3.8146	-4.1954	0.6032	-3.8987	-0.0231	1.1363
	0.0114	0.0161	0.0190	0.0673	0.0162	0.0052	0.0115
1	2.0797	3.7874	-4.1758	0.5282	-3.8812	0.0616	-4.9389
	0.0108	0.0136	0.0179	0.0619	0.0153	0.0055	0.0082
2	2.0575	3.8199	-4.2093	0.6300	-3.9251	0.1792	-4.9398
	0.0105	0.0154	0.0205	0.0607	0.0154	0.0053	0.0135
3	2.0561	3.8254	-4.2043	0.5961	-3.9184	0.2946	-4.9695
	0.0150	0.0163	0.0204	0.0631	0.0181	0.0055	0.0069
4	2.0047	3.8385	-4.2220	0.6637	-3.9576	0.4050	-4.8425
	0.0107	0.0156	0.0201	0.0552	0.0133	0.0053	0.0196
5	2.0638	3.8331	-4.2158	0.6250	-3.9334	0.5132	-2.3410
	0.0202	0.0187	0.0240	0.0912	0.0292	0.0055	0.0839
6	2.0494	3.8503	-4.2220	0.6325	-3.9411	0.6201	-2.6187
	0.0093	0.0137	0.0218	0.0657	0.0194	0.0057	0.0116
7	2.0409	3.8462	-4.2369	0.6874	-3.9647	0.7250	-2.5762
	0.0168	0.0208	0.0234	0.0763	0.0269	0.0057	0.0150
8	2.0536	3.8284	-4.2157	0.6209	-3.9391	0.8287	-2.4160
	0.0121	0.0135	0.0208	0.0700	0.0179	0.0057	0.0149
9	2.0537	3.8191	-4.2083	0.5883	-3.9290	0.9324	-2.0480
	0.0179	0.0200	0.0224	0.0561	0.0179	0.0053	0.0124
10	2.0424	3.8279	-4.2166	0.5958	-3.9366	1.0351	-1.4383
	0.0118	0.0169	0.0197	0.0655	0.0179	0.0063	0.0121
11	2.0650	3.8192	-4.2041	0.5568	-3.9193	1.1380	-0.5507
	0.0125	0.0153	0.0212	0.0679	0.0142	0.0054	0.0127
12	2.0167	3.8465	-4.2335	0.6581	-3.9681	1.2406	-0.0457
	0.0128	0.0140	0.0204	0.0616	0.0215	0.0064	0.0137

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	10.53	23.56	493.82	-14.20	43.35	0.00	5.90
1	10.40	23.39	491.46	-12.45	43.15	1.00	-24.47
2	10.29	23.60	495.49	-14.83	43.65	2.00	-24.48
3	10.28	23.63	494.88	-14.03	43.57	3.00	-24.63
4	10.03	23.71	497.02	-15.61	44.01	4.00	-23.99
5	10.32	23.68	496.27	-14.71	43.74	5.00	-11.49
6	10.25	23.78	497.01	-14.88	43.83	6.00	-12.87
7	10.21	23.76	498.81	-16.16	44.09	7.00	-12.66
8	10.27	23.65	496.26	-14.61	43.80	8.00	-11.86
9	10.27	23.59	495.37	-13.85	43.69	9.00	-10.02
10	10.21	23.64	496.36	-14.02	43.77	10.00	-6.97
11	10.33	23.59	494.86	-13.11	43.58	11.00	-2.53
12	10.09	23.76	498.40	-15.48	44.13	12.00	-0.01
Averages	10.27	23.64	495.99	-14.46	43.73	6.00	-12.31

Total Forces (including tare forces) :

Lift	= 495.99 lbs,	CL =	0.590
Drag	= -14.46 lbs,	CD =	-0.0172
Moment	= 43.73 ft-lbs,	CM =	0.104

Tunnel Pressure & Velocity :

Pt	= 10.27 psiG	= 24.67 psiA	
Pv	= 23.64 Dpsi,	Vt =	58.86 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	5.90	-0.254
1	0.030	-24.47	1.060
2	0.060	-24.48	1.051
3	0.110	-24.63	1.056
4	0.160	-23.99	1.025
5	0.260	-11.49	0.491
6	0.330	-12.87	0.548
7	0.450	-12.66	0.540
8	0.560	-11.86	0.508
9	0.680	-10.02	0.430
10	0.810	-6.97	0.299
11	0.900	-2.53	0.109
12	0.950	-0.01	0.000

*
EOR

YTS238.D03 - Continued

Run number : 235
* tare run for run 140
*
Angle of attack : 4.00 degrees
Tunnel pressure = 4.138 ftHgA = 24.39 psiA
Speed manometer = 4.457 ftHgW = 59.72 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.9836	3.9071	-0.0499	-0.0653	0.0064	1.3146	-2.0130
	0.0095	0.0199	0.0099	0.2090	0.0201	0.0051	0.0105
1	1.9498	3.9259	-0.0492	-0.0456	0.0081	1.3146	-1.9757
	0.0163	0.0258	0.0100	0.1918	0.0272	0.0046	0.0219

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	10.13	24.12	-6.74	2.19	0.00	0.00	-9.24
1	9.97	24.24	-6.83	1.74	-0.02	1.00	-9.05
Averages	10.05	24.18	-6.79	1.97	-0.01	0.50	-9.15

Tare Forces :

Lift = -6.79 lbs, CL = -0.008
Drag = 1.97 lbs, CD = 0.0023
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 10.05 psiG = 24.44 psiA
Pv = 24.18 Dpsi, Vt = 59.53 ft/s

*
EOR

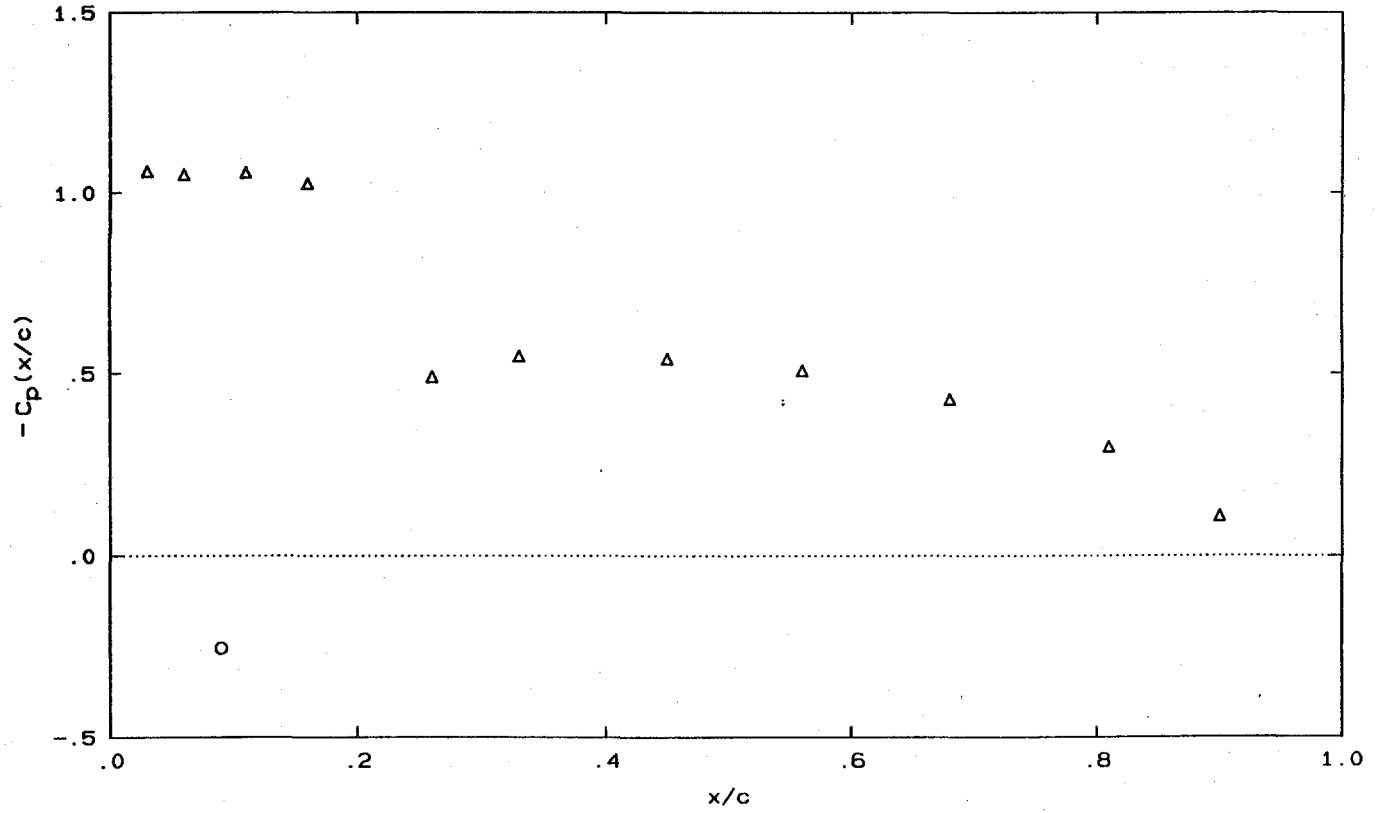
Model Forces (excluding tare forces) :

Lift = 489.21 lbs, CL = 0.582
Drag = -16.42 lbs, CD = -0.0195
Moment = 43.72 ft-lbs, CM = 0.104

Note incorrect speed manometer entry.
Probable contact between fairing plate & tunnel (see Drag)
#
EOF YTS238.D03

YTS238 Run 140

α = 4.00° P_t = 24.67 psiA V_t = 59.53 ft/s



```
YTS239.D03      3-FEB-88
YTS239.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS239.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 40% cavity length
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS312.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS239.D03 - Continued

Run number : 141
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.799 ftHgA = 22.39 psiA
Speed manometer = 4.336 ftHgW = 58.91 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.6007	3.8149	-4.2868	0.6601	-4.1369	-0.0209	1.3862
	0.0119	0.0132	0.0227	0.0964	0.0264	0.0052	0.0110
1	1.5938	3.8333	-4.3030	0.6760	-4.1445	0.0584	-4.4610
	0.0123	0.0149	0.0269	0.1019	0.0270	0.0055	0.0155
2	1.6041	3.8130	-4.2956	0.6542	-4.1379	0.1782	-4.5045
	0.0115	0.0135	0.0226	0.0736	0.0207	0.0053	0.0147
3	1.6086	3.7935	-4.2735	0.5904	-4.1132	0.2946	-4.5152
	0.0167	0.0172	0.0244	0.0898	0.0268	0.0055	0.0215
4	1.6022	3.8005	-4.2809	0.6183	-4.1264	0.4057	-4.5138
	0.0117	0.0085	0.0235	0.1146	0.0314	0.0055	0.0126
5	1.6257	3.8007	-4.2757	0.6146	-4.1178	0.5143	-4.5086
	0.0101	0.0114	0.0259	0.0972	0.0280	0.0053	0.0120
6	1.6072	3.8186	-4.3007	0.6620	-4.1471	0.6210	-3.9118
	0.0146	0.0177	0.0225	0.0789	0.0182	0.0057	0.2032
7	1.5933	3.8174	-4.3041	0.6477	-4.1491	0.7260	-2.1553
	0.0136	0.0179	0.0220	0.0743	0.0215	0.0055	0.0394
8	1.6172	3.8046	-4.2838	0.6027	-4.1256	0.8299	-2.3068
	0.0155	0.0181	0.0203	0.0937	0.0277	0.0056	0.0161
9	1.6351	3.7868	-4.2674	0.5385	-4.0975	0.9332	-2.0022
	0.0103	0.0120	0.0238	0.0850	0.0253	0.0052	0.0110
10	1.6554	3.7506	-4.2364	0.4502	-4.0625	1.0359	-1.4083
	0.0103	0.0085	0.0214	0.0784	0.0252	0.0062	0.0111
11	1.6023	3.8114	-4.2837	0.6029	-4.1303	1.1389	-0.5549
	0.0125	0.0161	0.0267	0.1436	0.0453	0.0057	0.0104
12	1.6386	3.7926	-4.2626	0.5470	-4.1033	1.2409	-0.0628
	0.0092	0.0149	0.0209	0.0730	0.0210	0.0063	0.0115

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	8.05	23.56	504.81	-15.52	46.02	0.00	7.15
1	8.01	23.68	506.76	-15.89	46.11	1.00	-22.08
2	8.06	23.55	505.87	-15.38	46.03	2.00	-22.30
3	8.09	23.43	503.21	-13.89	45.75	3.00	-22.36
4	8.05	23.48	504.11	-14.54	45.90	4.00	-22.35
5	8.17	23.48	503.48	-14.45	45.80	5.00	-22.32
6	8.08	23.59	506.48	-15.56	46.13	6.00	-19.34
7	8.01	23.58	506.89	-15.23	46.15	7.00	-10.56
8	8.13	23.50	504.45	-14.18	45.89	8.00	-11.31
9	8.22	23.39	502.48	-12.68	45.57	9.00	-9.79
10	8.32	23.17	498.75	-10.62	45.17	10.00	-6.82
11	8.06	23.54	504.44	-14.18	45.94	11.00	-2.55
12	8.23	23.43	501.90	-12.87	45.64	12.00	-0.09
Averages	8.11	23.49	504.28	-14.23	45.87	6.00	-12.67

Total Forces (including tare forces) :

Lift	= 504.28 lbs,	CL =	0.604
Drag	= -14.23 lbs,	CD =	-0.0170
Moment	= 45.87 ft-lbs,	CM =	0.110

Tunnel Pressure & Velocity :

Pt	= 8.11 psiG	=	22.51 psiA
Pv	= 23.49 Dpsi,	Vt =	58.67 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	7.15	-0.307
1	0.030	-22.08	0.945
2	0.060	-22.30	0.959
3	0.110	-22.36	0.967
4	0.160	-22.35	0.965
5	0.260	-22.32	0.963
6	0.330	-19.34	0.831
7	0.450	-10.56	0.454
8	0.560	-11.31	0.488
9	0.680	-9.79	0.424
10	0.810	-6.82	0.298
11	0.900	-2.55	0.110
12	0.950	-0.09	0.004

*
EOR

Run number : 236
* tare run for run 141
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.737 ftHgA = 22.03 psiA
Speed manometer = 4.471 ftHgW = 59.82 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.5581	3.9223	-0.0474	-0.0845	0.0095	1.3146	-1.5930
	0.0164	0.0233	0.0125	0.1843	0.0342	0.0049	0.0215
1	1.5520	3.9197	-0.0474	-0.0841	0.0061	1.3146	-1.5788
	0.0231	0.0210	0.0119	0.1806	0.0241	0.0051	0.0245
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	8.05	24.22	-7.05	2.65	-0.04	0.00	-7.14
1	8.02	24.20	-7.05	2.64	0.00	1.00	-7.07
Averages	8.03	24.21	-7.05	2.64	-0.02	0.50	-7.10

Tare Forces :

Lift = -7.05 lbs, CL = -0.008
Drag = 2.64 lbs, CD = 0.0031
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 8.03 psiG = 22.42 psiA
Pv = 24.21 Dpsi, Vt = 59.57 ft/s

*
EOR

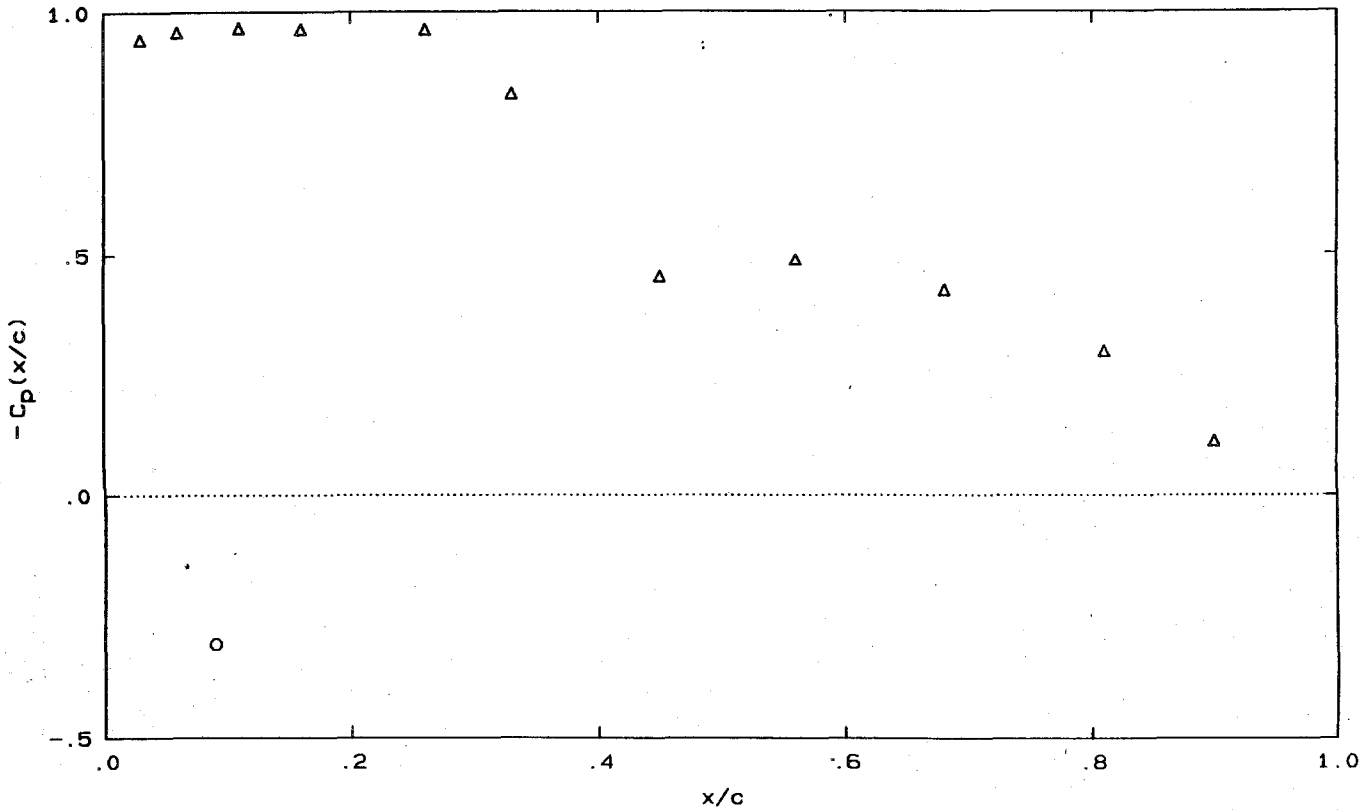
Model Forces (excluding tare forces) :

Lift = 497.23 lbs, CL = 0.596
Drag = -16.87 lbs, CD = -0.0201
Moment = 45.85 ft-lbs, CM = 0.110

Probable contact between fairing plate & tunnel (see Drag)
#
EOF YTS239.D03

YTS239 Run 141

α = 4.00° P_t = 22.51 psiA V_t = 59.57 ft/s



YTS240.D03 3-FEB-88
YTS240.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS240.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* 60%
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS240.D03 - Continued

Run number : 142
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.550 ftHgA = 20.93 psiA
Speed manometer = 4.305 ftHgW = 58.70 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.2825	3.8141	-4.3682	0.6552	-4.2578	-0.0197	1.4115
	0.0101	0.0134	0.0282	0.1213	0.0261	0.0054	0.0094
1	1.2953	3.7972	-4.3601	0.6591	-4.2549	0.0571	-4.1899
	0.0098	0.0135	0.0262	0.0963	0.0237	0.0055	0.0120
2	1.2880	3.8009	-4.3610	0.6599	-4.2576	0.1775	-4.1912
	0.0128	0.0139	0.0285	0.0928	0.0235	0.0053	0.0161
3	1.3373	3.7777	-4.3348	0.6345	-4.2356	0.2942	-4.2354
	0.0080	0.0080	0.0295	0.0700	0.0231	0.0056	0.0151
4	1.3011	3.7988	-4.3579	0.6621	-4.2553	0.4058	-4.2246
	0.0095	0.0153	0.0279	0.0881	0.0243	0.0054	0.0166
5	1.2844	3.8247	-4.3834	0.6916	-4.2743	0.5147	-4.2049
	0.0089	0.0142	0.0267	0.1176	0.0238	0.0053	0.0133
6	1.2978	3.8135	-4.3737	0.6463	-4.2635	0.6217	-4.1880
	0.0093	0.0152	0.0273	0.0854	0.0252	0.0056	0.0136
7	1.2982	3.8121	-4.3711	0.6534	-4.2632	0.7267	-4.0425
	0.0110	0.0161	0.0307	0.1028	0.0274	0.0055	0.0113
8	1.3393	3.7961	-4.3504	0.6496	-4.2524	0.8306	-1.6820
	0.0103	0.0169	0.0241	0.0710	0.0205	0.0059	0.0196
9	1.3165	3.8284	-4.3893	0.6784	-4.2761	0.9343	-1.6599
	0.0095	0.0152	0.0322	0.0746	0.0154	0.0051	0.0143
10	1.3394	3.8046	-4.3696	0.6459	-4.2586	1.0372	-1.3273
	0.0114	0.0127	0.0277	0.0820	0.0188	0.0062	0.0122
11	1.3041	3.8135	-4.3928	0.5990	-4.2755	1.0699	-0.4013
	0.0108	0.0127	0.0275	0.0916	0.0247	0.0066	0.0141
12	1.3541	3.7869	-4.3756	0.5675	-4.2509	1.2106	-0.6412
	0.0191	0.0214	0.0234	0.0792	0.0230	0.0050	0.0186

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	6.49	23.56	514.60	-15.40	47.37	0.00	7.28
1	6.55	23.45	513.63	-15.49	47.34	1.00	-20.73
2	6.51	23.48	513.74	-15.51	47.37	2.00	-20.74
3	6.76	23.33	510.59	-14.92	47.12	3.00	-20.96
4	6.58	23.46	513.37	-15.56	47.34	4.00	-20.90
5	6.50	23.63	516.43	-16.25	47.56	5.00	-20.80
6	6.56	23.56	515.26	-15.19	47.43	6.00	-20.72
7	6.56	23.55	514.95	-15.36	47.43	7.00	-19.99
8	6.76	23.45	512.46	-15.27	47.31	8.00	-8.19
9	6.65	23.65	517.14	-15.94	47.58	9.00	-8.08
10	6.77	23.50	514.77	-15.19	47.38	10.00	-6.42
11	6.59	23.56	517.55	-14.09	47.56	11.00	-1.79
12	6.84	23.39	515.49	-13.36	47.29	12.00	-2.99
Averages	6.62	23.50	514.77	-15.20	47.40	6.00	-12.69

Total Forces (including tare forces) :

Lift	= 514.77 lbs,	CL =	0.616
Drag	= -15.20 lbs,	CD =	-0.0182
Moment	= 47.40 ft-lbs,	CM =	0.113

Tunnel Pressure & Velocity :

Pt	= 6.62 psiG	=	21.02 psiA
Pv	= 23.50 Dpsi,	Vt =	58.69 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	7.28	-0.313
1	0.030	-20.73	0.895
2	0.060	-20.74	0.895
3	0.110	-20.96	0.910
4	0.160	-20.90	0.903
5	0.260	-20.80	0.892
6	0.330	-20.72	0.891
7	0.450	-19.99	0.860
8	0.560	-8.19	0.354
9	0.680	-8.08	0.346
10	0.810	-6.42	0.277
11	0.900	-1.79	0.077
12	0.950	-2.99	0.129

* tap 11 and 12 have been rerun many times
*
EOR

Run number : 237
* tare run for run 142
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.539 ftHgA = 20.86 psiA
Speed manometer = 4.412 ftHgW = 59.42 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.1946	3.9377	-0.0459	-0.0551	0.0063	1.3146	-1.2182
	0.0066	0.0173	0.0128	0.1723	0.0202	0.0048	0.0089
1	1.2156	3.9258	-0.0449	-0.0607	0.0101	1.3144	-1.2435
	0.0062	0.0158	0.0134	0.1769	0.0268	0.0050	0.0090
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	6.26	24.31	-7.23	1.96	0.00	0.00	-5.27
1	6.37	24.24	-7.35	2.09	-0.04	1.00	-5.39
Averages	6.31	24.28	-7.29	2.03	-0.02	0.50	-5.33

Tare Forces :

Lift = -7.29 lbs, CL = -0.008
Drag = 2.03 lbs, CD = 0.0024
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

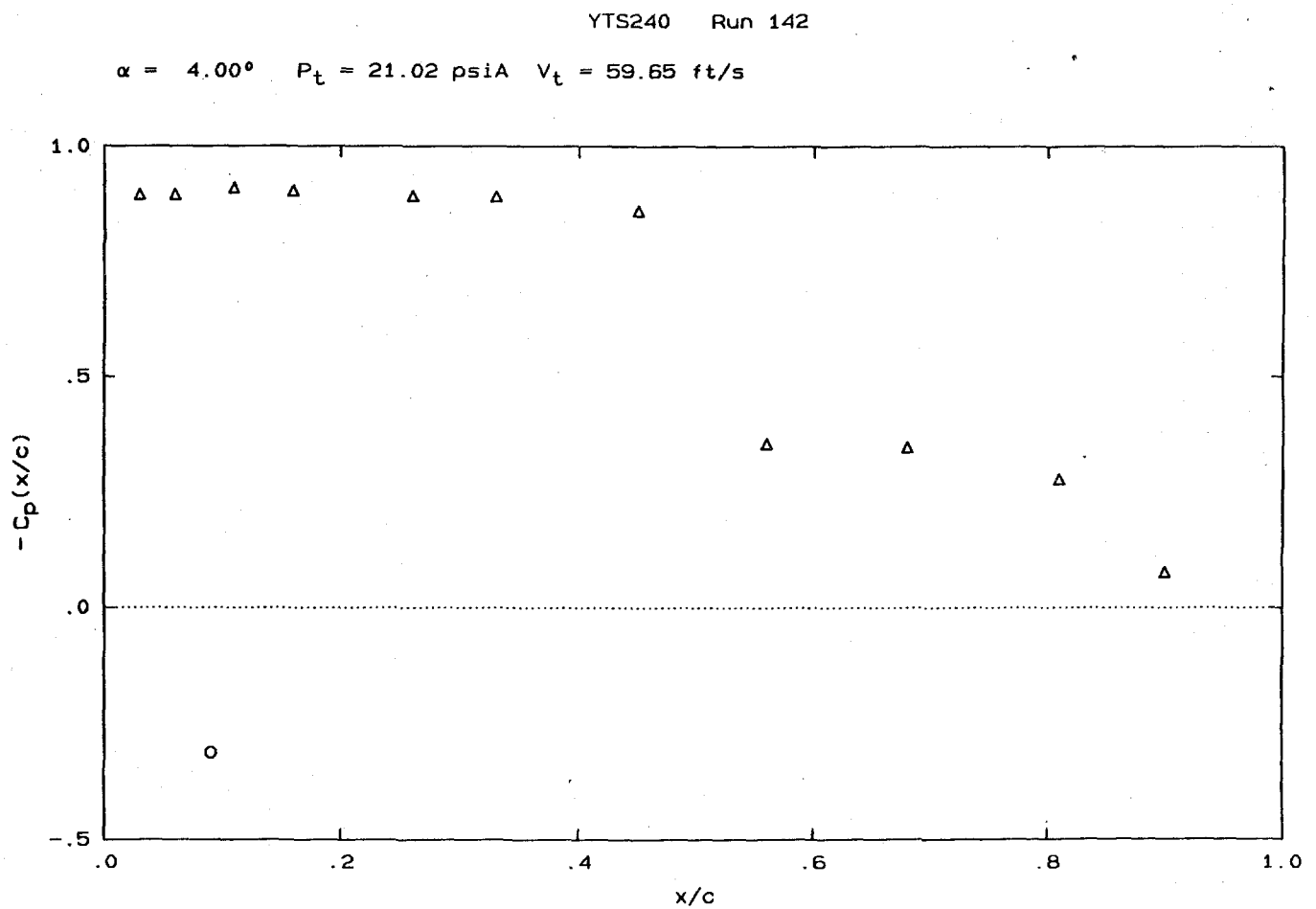
Pt = 6.31 psiG = 20.71 psiA
Pv = 24.28 Dpsi, Vt = 59.65 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 507.48 lbs, CL = 0.608
Drag = -17.23 lbs, CD = -0.0205
Moment = 47.38 ft-lbs, CM = 0.113

EOF YTS240.D03


YTS240 Run 142
α = 4.00° P_t = 21.02 psiA V_t = 59.65 ft/s
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS241.D03      3-FEB-88
YTS241.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS241.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* cavitation inception study
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :  24.70  C
Water air content :   0.00  ml/lt
```

```
YTS312.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

Run number : 143
*
Angle of attack : 3.00 degrees
Tunnel pressure = 4.952 ftHgA = 29.19 psiA
Speed manometer = 4.339 ftHgW = 58.93 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.9985	3.8257	-3.8009	-0.3875	-2.8560	-0.0328	0.2821
	0.0146	0.0165	0.0143	0.0535	0.0122	0.0021	0.0169
1	2.9803	3.8111	-3.7940	-0.4142	-2.8522	0.0883	-3.6101
	0.0148	0.0133	0.0140	0.0584	0.0116	0.0019	0.0165
2	2.9474	3.8385	-3.8014	-0.3902	-2.8699	0.2013	-3.2083
	0.0224	0.0176	0.0142	0.0572	0.0154	0.0020	0.0328
3	2.9481	3.8396	-3.8059	-0.3773	-2.8720	0.3131	-2.9637
	0.0148	0.0158	0.0138	0.0652	0.0127	0.0023	0.0152
4	2.9717	3.8251	-3.7986	-0.4059	-2.8569	0.4221	-2.8522
	0.0184	0.0168	0.0159	0.0545	0.0130	0.0026	0.0149
5	2.9201	3.8699	-3.8223	-0.3565	-2.8901	0.5325	-2.6849
	0.0150	0.0218	0.0154	0.0711	0.0148	0.0029	0.0142
6	3.0048	3.8018	-3.7698	-0.4580	-2.8247	0.6110	-2.5412
	0.0109	0.0159	0.0131	0.0537	0.0137	0.0056	0.0122
7	2.9709	3.8245	-3.7932	-0.4209	-2.8526	0.7157	-2.4265
	0.0141	0.0186	0.0137	0.0596	0.0105	0.0058	0.0161
8	3.0014	3.7943	-3.7842	-0.4191	-2.8407	0.8191	-2.2605
	0.0122	0.0119	0.0138	0.0474	0.0105	0.0056	0.0154
9	3.0097	3.7996	-3.7878	-0.4262	-2.8349	0.9225	-1.9532
	0.0196	0.0164	0.0148	0.0494	0.0125	0.0059	0.0153
10	2.9905	3.8047	-3.7775	-0.4410	-2.8336	1.0252	-1.3473
	0.0279	0.0185	0.0163	0.0630	0.0179	0.0063	0.0125
11	2.9648	3.8287	-3.7915	-0.4167	-2.8453	1.1286	-0.5193
	0.0147	0.0141	0.0161	0.0684	0.0141	0.0055	0.0136
12	2.9842	3.8320	-3.8042	-0.3931	-2.8560	1.2314	-0.2268
	0.0115	0.0145	0.0142	0.0609	0.0130	0.0072	0.0137

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	14.90	23.63	446.29	8.92	31.63	0.00	1.63
1	14.82	23.54	445.46	9.54	31.58	1.00	-17.83
2	14.65	23.71	446.35	8.98	31.78	2.00	-15.82
3	14.66	23.72	446.89	8.68	31.81	3.00	-14.60
4	14.77	23.63	446.01	9.35	31.64	4.00	-14.04
5	14.52	23.91	448.86	8.20	32.01	5.00	-13.20
6	14.94	23.48	442.55	10.56	31.27	6.00	-12.49
7	14.77	23.62	445.36	9.70	31.59	7.00	-11.91
8	14.92	23.44	444.29	9.65	31.45	8.00	-11.08
9	14.96	23.47	444.72	9.82	31.39	9.00	-9.55
10	14.87	23.50	443.48	10.17	31.37	10.00	-6.52
11	14.74	23.65	445.16	9.60	31.51	11.00	-2.38
12	14.83	23.67	446.69	9.05	31.63	12.00	-0.91
Averages	14.80	23.61	445.68	9.41	31.60	6.00	-9.90

Total Forces (including tare forces) :

Lift	= 445.68 lbs,	CL =	0.531
Drag	= 9.41 lbs,	CD =	0.0112
Moment	= 31.60 ft-lbs,	CM =	0.075

Tunnel Pressure & Velocity :

Pt	= 14.80 psiG	= 29.19 psiA	
Pv	= 23.61 Dpsi,	Vt = 58.83 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	1.63	-0.070
1	0.030	-17.83	0.767
2	0.060	-15.82	0.676
3	0.110	-14.60	0.624
4	0.160	-14.04	0.602
5	0.260	-13.20	0.560
6	0.330	-12.49	0.539
7	0.450	-11.91	0.511
8	0.560	-11.08	0.479
9	0.680	-9.55	0.412
10	0.810	-6.52	0.281
11	0.900	-2.38	0.102
12	0.950	-0.91	0.039

* cavitation occur at the step of the roughness
*
EOR

Run number : 238
* tare run for run 143
*
Angle of attack : 3.00 degrees
Tunnel pressure = 4.900 ftHgA = 28.88 psiA
Speed manometer = 4.472 ftHgW = 59.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.9612	3.9513	-0.0578	-0.0432	0.0070	1.3145	-2.9833
	0.0101	0.0195	0.0096	0.1414	0.0268	0.0050	0.0147
1	2.9304	3.9372	-0.0575	-0.0251	0.0075	0.1085	-2.9767
	0.0213	0.0227	0.0113	0.1667	0.0196	0.0024	0.0244

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	14.93	24.40	-5.80	1.68	-0.01	0.00	-14.09
1	14.78	24.31	-5.83	1.26	-0.01	1.00	-14.06
Averages	14.85	24.35	-5.82	1.47	-0.01	0.50	-14.08

Tare Forces :

Lift = -5.82 lbs, CL = -0.007
Drag = 1.47 lbs, CD = 0.0017
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

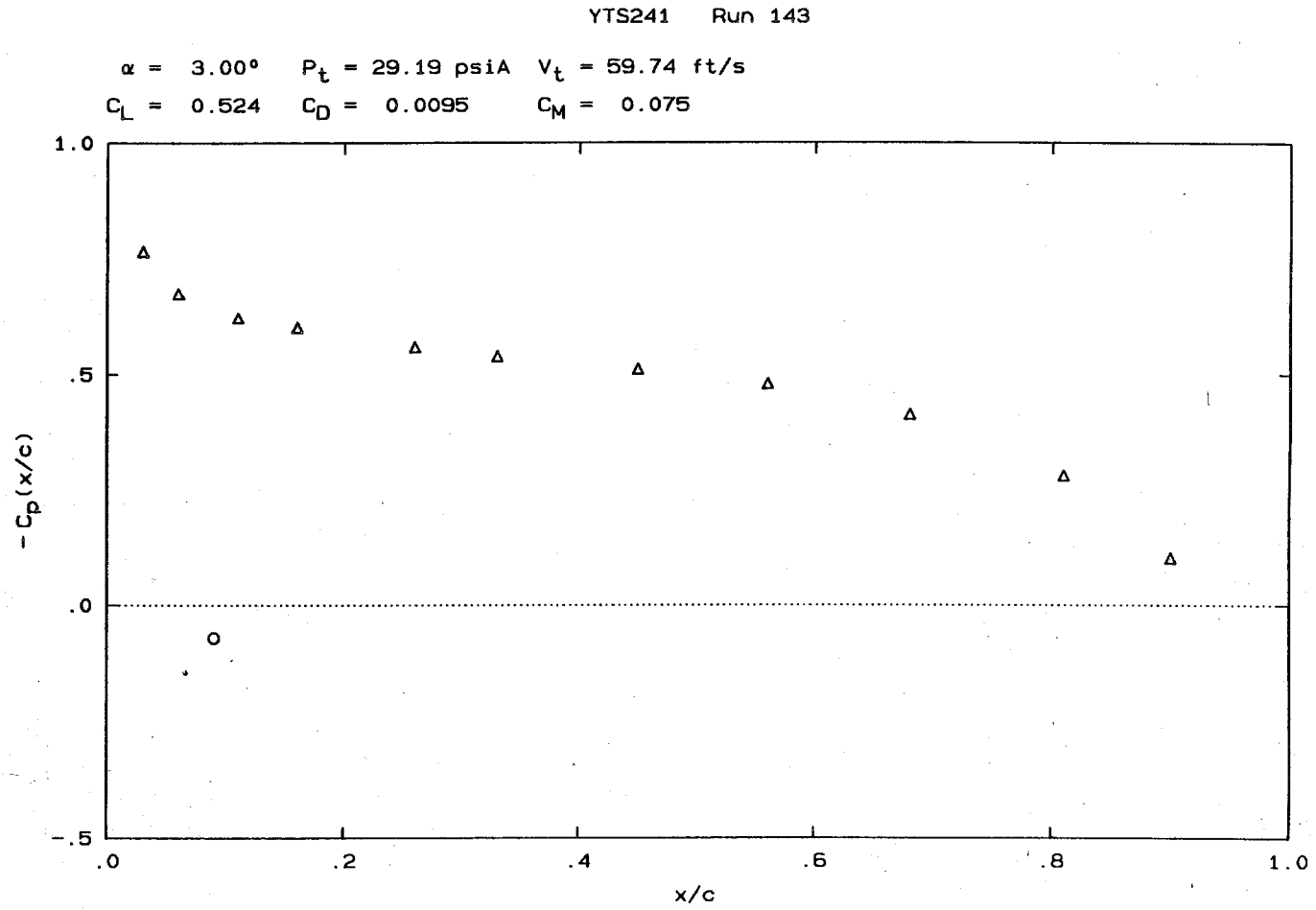
Pt = 14.85 psiG = 29.25 psiA
Pv = 24.35 Dpsi, Vt = 59.74 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 439.87 lbs, CL = 0.524
Drag = 7.93 lbs, CD = 0.0095
Moment = 31.59 ft-lbs, CM = 0.075

EOF YTS241.D03


YTS241 Run 143
α = 3.00° P_t = 29.19 psiA V_t = 59.74 ft/s
C_L = 0.524 C_D = 0.0095 C_M = 0.075
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS242.D03 3-FEB-88
YTS242.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS242.dat 19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* cavitation inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 24.70 C
Water air content : 0.00 ml/lt

YTS312.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs for runs 120 through 210.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS242.D03 - Continued

Run number : 144
*
Angle of attack : 3.00 degrees
Tunnel pressure = 1.177 ftHgA = 6.94 psiA
Speed manometer = 1.058 ftHgW = 29.11 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.5579	0.9519	-1.0095	-0.1833	-0.7275	-0.0069	0.2046
	0.0071	0.0065	0.0086	0.0150	0.0172	0.0067	0.0088
1	-1.5681	0.9600	-1.0125	-0.1865	-0.7347	0.0826	-0.8985
	0.0065	0.0066	0.0076	0.0188	0.0161	0.0072	0.0089
2	-1.5586	0.9621	-1.0200	-0.1863	-0.7370	0.1815	-0.8475
	0.0066	0.0065	0.0079	0.0176	0.0205	0.0075	0.0099
3	-1.5540	0.9589	-1.0102	-0.1847	-0.7316	0.2810	-0.7853
	0.0068	0.0066	0.0088	0.0172	0.0103	0.0084	0.0090
4	-1.5649	0.9683	-1.0225	-0.1867	-0.7397	0.3803	-0.7502
	0.0061	0.0065	0.0091	0.0200	0.0105	0.0074	0.0088
5	-1.5584	0.9639	-1.0198	-0.1863	-0.7384	0.4795	-0.7145
	0.0061	0.0062	0.0075	0.0198	0.0107	0.0071	0.0086
6	-1.5657	0.9675	-1.0250	-0.1868	-0.7405	0.5792	-0.6888
	0.0063	0.0069	0.0074	0.0186	0.0131	0.0079	0.0095
7	-1.5621	0.9628	-1.0213	-0.1862	-0.7389	0.6794	-0.6536
	0.0062	0.0065	0.0079	0.0142	0.0132	0.0081	0.0090
8	-1.5639	0.9603	-1.0168	-0.1868	-0.7341	0.7792	-0.6112
	0.0061	0.0065	0.0086	0.0170	0.0183	0.0072	0.0082
9	-1.5628	0.9591	-1.0191	-0.1856	-0.7340	0.8789	-0.5319
	0.0057	0.0063	0.0071	0.0164	0.0187	0.0072	0.0083
10	-1.5652	0.9614	-1.0216	-0.1868	-0.7378	0.9788	-0.3831
	0.0060	0.0067	0.0083	0.0194	0.0090	0.0072	0.0087
11	-1.5626	0.9576	-1.0155	-0.1852	-0.7327	1.0796	-0.1662
	0.0061	0.0066	0.0082	0.0167	0.0085	0.0086	0.0084
12	-1.5672	0.9611	-1.0198	-0.1860	-0.7365	1.1786	-0.0479
	0.0065	0.0070	0.0066	0.0162	0.0123	0.0087	0.0094

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-7.45	5.81	111.32	3.84	7.87	0.00	1.24
1	-7.50	5.86	111.68	3.91	7.95	1.00	-4.27
2	-7.45	5.88	112.58	3.91	7.97	2.00	-4.02
3	-7.43	5.86	111.40	3.87	7.91	3.00	-3.71
4	-7.48	5.92	112.88	3.92	8.00	4.00	-3.53
5	-7.45	5.89	112.56	3.91	7.99	5.00	-3.35
6	-7.49	5.91	113.18	3.92	8.01	6.00	-3.22
7	-7.47	5.88	112.74	3.90	7.99	7.00	-3.05
8	-7.48	5.87	112.20	3.92	7.94	8.00	-2.84
9	-7.47	5.86	112.47	3.89	7.94	9.00	-2.44
10	-7.48	5.87	112.77	3.92	7.98	10.00	-1.70
11	-7.47	5.85	112.04	3.88	7.92	11.00	-0.61
12	-7.49	5.87	112.56	3.90	7.97	12.00	-0.02
Averages	-7.47	5.87	112.37	3.90	7.96	6.00	-2.42

Total Forces (including tare forces) :

Lift = 112.37 lbs, CL = 0.539
Drag = 3.90 lbs, CD = 0.0187
Moment = 7.96 ft-lbs, CM = 0.076

Tunnel Pressure & Velocity :

Pt = -7.47 psiG = 6.93 psiA
Pv = 5.87 Dpsi, Vt = 29.33 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	1.24	-0.217
1	0.030	-4.27	0.738
2	0.060	-4.02	0.693
3	0.110	-3.71	0.641
4	0.160	-3.53	0.605
5	0.260	-3.35	0.577
6	0.330	-3.22	0.553
7	0.450	-3.05	0.525
8	0.560	-2.84	0.490
9	0.680	-2.44	0.422
10	0.810	-1.70	0.293
11	0.900	-0.61	0.106
12	0.950	-0.02	0.003

*
EOR

YTS242.D03 - Continued

Run number : 239
* tare run for run 144
*
Angle of attack : 3.00 degrees
Tunnel pressure = 0.831 ftHgA = 4.90 psiA
Speed manometer = 1.159 ftHgW = 30.45 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.0182	1.0360	-0.0883	-0.0471	0.0029	0.1088	1.7480
	0.0037	0.0047	0.0051	0.0209	0.0035	0.0023	0.0054
1	-2.0129	1.0292	-0.0880	-0.0461	0.0027	0.1087	1.7425
	0.0051	0.0048	0.0051	0.0239	0.0040	0.0024	0.0054
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.50	6.32	-1.61	1.18	-0.01	0.00	9.56
1	-9.47	6.28	-1.65	1.16	-0.01	1.00	9.54
Averages	-9.49	6.30	-1.63	1.17	-0.01	0.50	9.55

Tare Forces :

Lift = -1.63 lbs, CL = -0.007
Drag = 1.17 lbs, CD = 0.0052
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

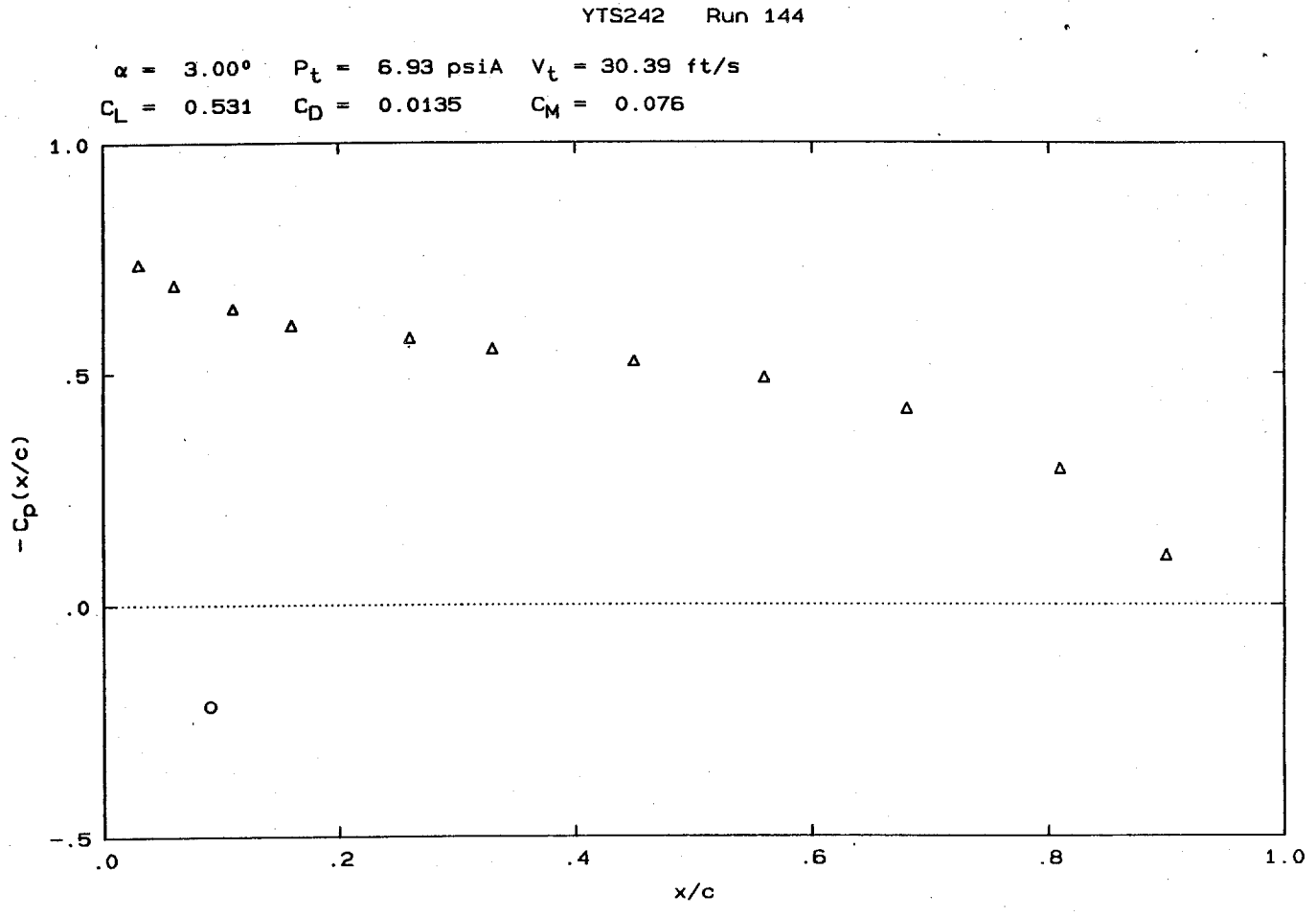
Pt = -9.49 psiG = 4.91 psiA
Pv = 6.30 Dpsi, Vt = 30.39 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 110.74 lbs, CL = 0.531
Drag = 2.73 lbs, CD = 0.0135
Moment = 7.95 ft-lbs, CM = 0.076

EOF YTS242.D03


YTS242 Run 144
α = 3.00° Pt = 6.93 psiA Vt = 30.39 ft/s
CL = 0.531 CD = 0.0135 CM = 0.076
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS243.D03      3-FEB-88
YTS243.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS243.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* cavitation study for 2.0 deg.
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,  = 14.40 psiA
Water temperature :   24.70  C
Water air content :    0.00  ml/lt




YTS313.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,  = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

Run number : 145
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.694 ftHgA = 15.88 psiA
Speed manometer = 4.384 ftHgW = 59.23 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.3056	3.8330	-3.2182	-0.5615	-1.9848	-0.0068	0.6894
	0.0121	0.0158	0.0239	0.0895	0.0256	0.0042	0.0130
1	0.2459	3.8822	-3.2605	-0.5692	-2.0083	0.0822	-2.5778
	0.0081	0.0158	0.0285	0.0743	0.0282	0.0051	0.0126
2	0.3008	3.8486	-3.2366	-0.5686	-1.9926	0.1811	-2.5031
	0.0098	0.0129	0.0233	0.0824	0.0277	0.0052	0.0141
3	0.3016	3.8362	-3.2250	-0.5781	-1.9933	0.2818	-2.4505
	0.0106	0.0154	0.0257	0.0820	0.0395	0.0053	0.0124
4	0.2634	3.8651	-3.2436	-0.5771	-2.0018	0.3829	-2.4464
	0.0173	0.0192	0.0241	0.0652	0.0362	0.0052	0.0197
5	0.2945	3.8474	-3.2318	-0.5681	-1.9924	0.4839	-2.3795
	0.0106	0.0131	0.0227	0.0690	0.0246	0.0053	0.0119
6	0.2847	3.8524	-3.2281	-0.5735	-1.9946	0.5860	-2.3312
	0.0160	0.0157	0.0279	0.0733	0.0284	0.0053	0.0140
7	0.2670	3.8631	-3.2416	-0.5744	-1.9965	0.6888	-2.2728
	0.0120	0.0137	0.0229	0.0540	0.0329	0.0056	0.0120
8	0.2564	3.8728	-3.2489	-0.5698	-2.0033	0.7907	-2.1630
	0.0117	0.0158	0.0267	0.0792	0.0422	0.0057	0.0123
9	0.2547	3.8754	-3.2494	-0.5744	-2.0076	0.8936	-1.9039
	0.0148	0.0142	0.0320	0.0660	0.0367	0.0058	0.0117
10	0.2402	3.8800	-3.2527	-0.5758	-2.0141	0.9968	-1.3515
	0.0138	0.0170	0.0205	0.0758	0.0244	0.0063	0.0123
11	0.2651	3.8541	-3.2396	-0.5664	-2.0018	1.0987	-0.4885
	0.0134	0.0134	0.0266	0.0531	0.0274	0.0054	0.0103
12	0.2049	3.9059	-3.2868	-0.5768	-2.0353	1.2025	0.0059
	0.0108	0.0185	0.0221	0.0655	0.0282	0.0062	0.0086

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.69	23.68	376.22	12.98	21.88	0.00	3.67
1	1.40	23.98	381.29	13.17	22.14	1.00	-12.67
2	1.67	23.77	378.43	13.15	21.97	2.00	-12.30
3	1.67	23.70	377.04	13.37	21.97	3.00	-12.03
4	1.49	23.88	379.27	13.35	22.07	4.00	-12.01
5	1.64	23.77	377.85	13.14	21.97	5.00	-11.68
6	1.59	23.80	377.41	13.27	21.99	6.00	-11.44
7	1.50	23.86	379.03	13.29	22.01	7.00	-11.14
8	1.45	23.92	379.90	13.18	22.09	8.00	-10.60
9	1.44	23.94	379.96	13.29	22.13	9.00	-9.30
10	1.37	23.97	380.36	13.33	22.21	10.00	-6.54
11	1.49	23.81	378.79	13.10	22.07	11.00	-2.22
12	1.20	24.13	384.45	13.35	22.44	12.00	0.25
Averages	1.51	23.86	379.34	13.23	22.08	6.00	-8.31

Total Forces (including tare forces) :

Lift	= 379.34 lbs,	CL =	0.447
Drag	= 13.23 lbs,	CD =	0.0156
Moment	= 22.08 ft-lbs,	CM =	0.052

Tunnel Pressure & Velocity :

Pt	= 1.51 psiG	=	15.91 psiA
Pv	= 23.86 Dpsi,	Vt =	59.14 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.67	-0.157
1	0.030	-12.67	0.535
2	0.060	-12.30	0.524
3	0.110	-12.03	0.514
4	0.160	-12.01	0.510
5	0.260	-11.68	0.498
6	0.330	-11.44	0.487
7	0.450	-11.14	0.473
8	0.560	-10.60	0.449
9	0.680	-9.30	0.394
10	0.810	-6.54	0.276
11	0.900	-2.22	0.095
12	0.950	0.25	-0.010

* Photos taken for this run are slightly beyond inception
*
EOR

YTS243.D03 - Continued

Run number : 240
* tare run for run 145
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.680 ftHgA = 15.79 psiA
Speed manometer = 4.462 ftHgW = 59.76 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.2278	3.9146	-0.0655	-0.1288	0.0051	0.1087	-0.3611
	0.0101	0.0201	0.0127	0.1110	0.0197	0.0023	0.0117
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.52	24.17	-4.87	3.68	0.01	0.00	-0.98
Averages	1.52	24.17	-4.87	3.68	0.01	0.00	-0.98

Tare Forces :

Lift = -4.87 lbs, CL = -0.006
Drag = 3.68 lbs, CD = 0.0043
Moment = 0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 1.52 psiG = 15.91 psiA
Pv = 24.17 Dpsi, Vt = 59.52 ft/s

*
EOR

Model Forces (excluding tare forces) :

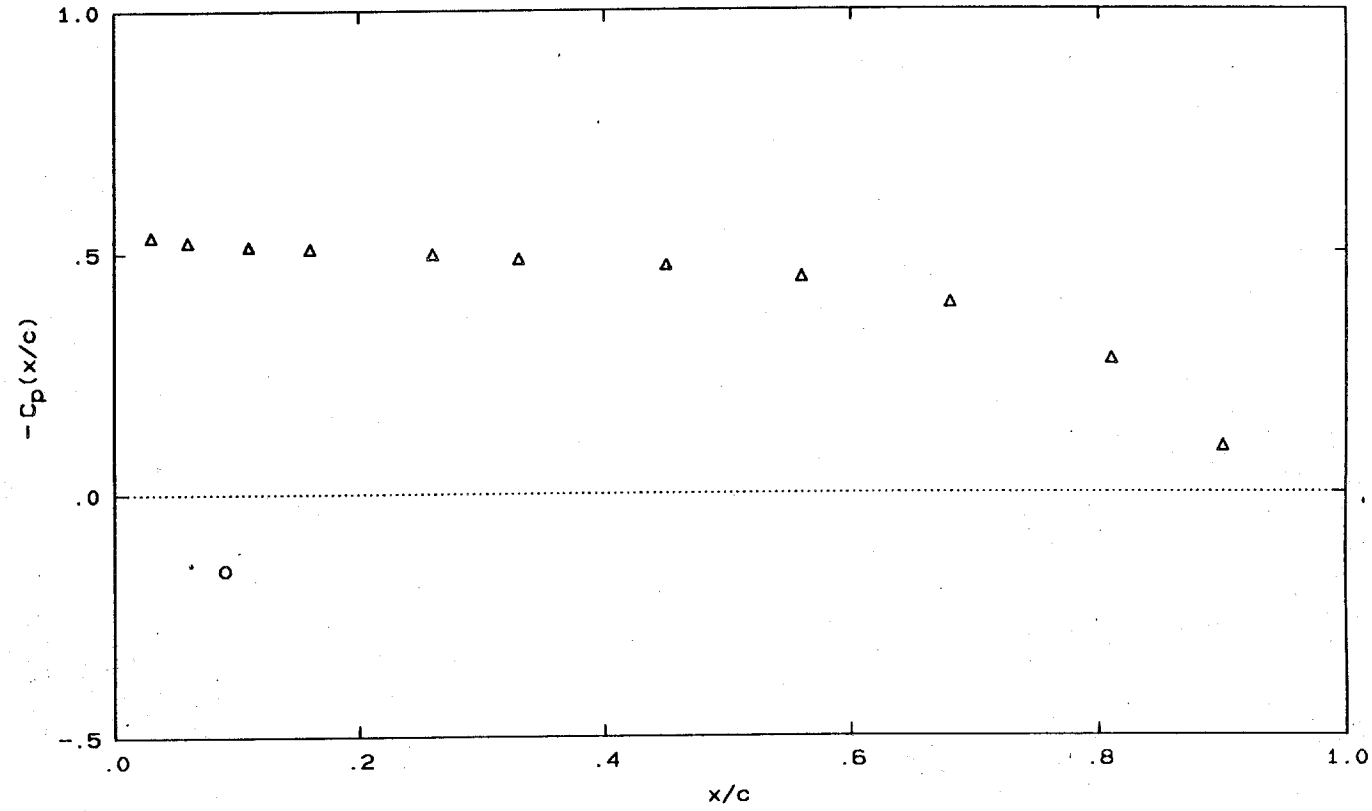
Lift = 374.47 lbs, CL = 0.442
Drag = 9.55 lbs, CD = 0.0113
Moment = 22.09 ft-lbs, CM = 0.052

EOF YTS243.D03

YTS243 Run 145

α = 2.00° P_t = 15.91 psiA V_t = 59.52 ft/s

C_L = 0.442 C_D = 0.0113 C_M = 0.052



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YTS244.D03      3-FEB-88
YTS244.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS244.dat     19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
* cavity length fluctuates between 5 and 20% chord
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.443 ft HgA,  = 14.40 psiA
Water temperature :   24.70  C
Water air content :    0.00  ml/lt




YTS313.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,  = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS244.D03 - Continued

Run number : 146
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.438 ftHgA = 14.37 psiA
Speed manometer = 4.341 ftHgW = 58.94 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.0804	3.8771	-3.2975	-0.5642	-2.0550	-0.0075	0.6919
	0.0147	0.0168	0.0257	0.0908	0.0230	0.0044	0.0108
1	-0.0551	3.8610	-3.2618	-0.5910	-2.0374	0.0821	-2.7945
	0.0090	0.0126	0.0306	0.0929	0.0243	0.0052	0.0099
2	-0.0627	3.8241	-3.2348	-0.5515	-2.0163	0.1814	-2.8130
	0.0174	0.0204	0.0272	0.1009	0.0336	0.0051	0.0164
3	-0.0678	3.8306	-3.2398	-0.5796	-2.0162	0.2821	-2.4565
	0.0084	0.0150	0.0253	0.0911	0.0228	0.0052	0.0109
4	-0.0614	3.8260	-3.2350	-0.5708	-2.0169	0.3832	-2.3764
	0.0101	0.0142	0.0269	0.0994	0.0433	0.0052	0.0115
5	-0.0775	3.8422	-3.2689	-0.5620	-2.0340	0.4849	-2.3765
	0.0144	0.0173	0.0250	0.0967	0.0255	0.0051	0.0162
6	-0.0418	3.7964	-3.2031	-0.5766	-1.9937	0.5860	-2.3309
	0.0087	0.0133	0.0262	0.0848	0.0328	0.0054	0.0115
7	-0.0728	3.8282	-3.2350	-0.5748	-2.0166	0.6893	-2.2519
	0.0097	0.0135	0.0244	0.1079	0.0406	0.0057	0.0113
8	-0.0946	3.8454	-3.2590	-0.5719	-2.0350	0.7917	-2.1353
	0.0120	0.0157	0.0289	0.1074	0.0280	0.0057	0.0101
9	-0.0406	3.7973	-3.2016	-0.5599	-1.9929	0.8932	-1.8786
	0.0097	0.0130	0.0290	0.0920	0.0299	0.0057	0.0124
10	-0.0974	3.8560	-3.2679	-0.5708	-2.0428	0.9977	-1.3675
	0.0095	0.0140	0.0218	0.1055	0.0208	0.0063	0.0106
11	-0.0881	3.8402	-3.2504	-0.5658	-2.0210	1.0994	-0.4936
	0.0089	0.0220	0.0276	0.0953	0.0237	0.0055	0.0088
12	-0.1091	3.8612	-3.2752	-0.5641	-2.0452	1.2027	0.0016
	0.0106	0.0171	0.0284	0.0899	0.0328	0.0062	0.0080

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-0.20	23.95	385.74	13.05	22.66	0.00	3.68
1	-0.08	23.85	381.45	13.68	22.47	1.00	-13.75
2	-0.11	23.62	378.22	12.75	22.23	2.00	-13.85
3	-0.14	23.66	378.82	13.41	22.23	3.00	-12.06
4	-0.11	23.63	378.24	13.20	22.24	4.00	-11.66
5	-0.19	23.73	382.31	12.99	22.43	5.00	-11.66
6	-0.01	23.45	374.41	13.33	21.98	6.00	-11.43
7	-0.16	23.65	378.24	13.30	22.24	7.00	-11.04
8	-0.27	23.75	381.12	13.23	22.44	8.00	-10.46
9	0.00	23.46	374.23	12.94	21.97	9.00	-9.17
10	-0.28	23.82	382.19	13.20	22.53	10.00	-6.62
11	-0.24	23.72	380.09	13.08	22.28	11.00	-2.25
12	-0.34	23.85	383.07	13.05	22.56	12.00	0.23
Averages	-0.16	23.70	379.96	13.18	22.33	6.00	-8.47

Total Forces (including tare forces) :

Lift = 379.96 lbs, CL = 0.451
Drag = 13.18 lbs, CD = 0.0156
Moment = 22.33 ft-lbs, CM = 0.053

Tunnel Pressure & Velocity :

Pt = -0.16 psiG = 14.23 psiA
Pv = 23.70 Dpsi, Vt = 58.94 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.68	-0.156
1	0.030	-13.75	0.584
2	0.060	-13.85	0.594
3	0.110	-12.06	0.517
4	0.160	-11.66	0.500
5	0.260	-11.66	0.498
6	0.330	-11.43	0.494
7	0.450	-11.04	0.473
8	0.560	-10.46	0.446
9	0.680	-9.17	0.396
10	0.810	-6.62	0.281
11	0.900	-2.25	0.096
12	0.950	0.23	-0.010

*
EOR

YTS244.D03 - Continued

Run number : 241
* tare run for run 146
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.389 ftHgA = 14.08 psiA
Speed manometer = 4.413 ftHgW = 59.43 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.1482	3.9116	-0.0649	-0.1033	0.0068	0.1086	0.0028
	0.0048	0.0172	0.0097	0.0963	0.0241	0.0023	0.0045
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-0.32	24.15	-4.94	3.08	-0.01	0.00	0.84
Averages	-0.32	24.15	-4.94	3.08	-0.01	0.00	0.84

Tare Forces :

Lift = -4.94 lbs, CL = -0.006
Drag = 3.08 lbs, CD = 0.0036
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

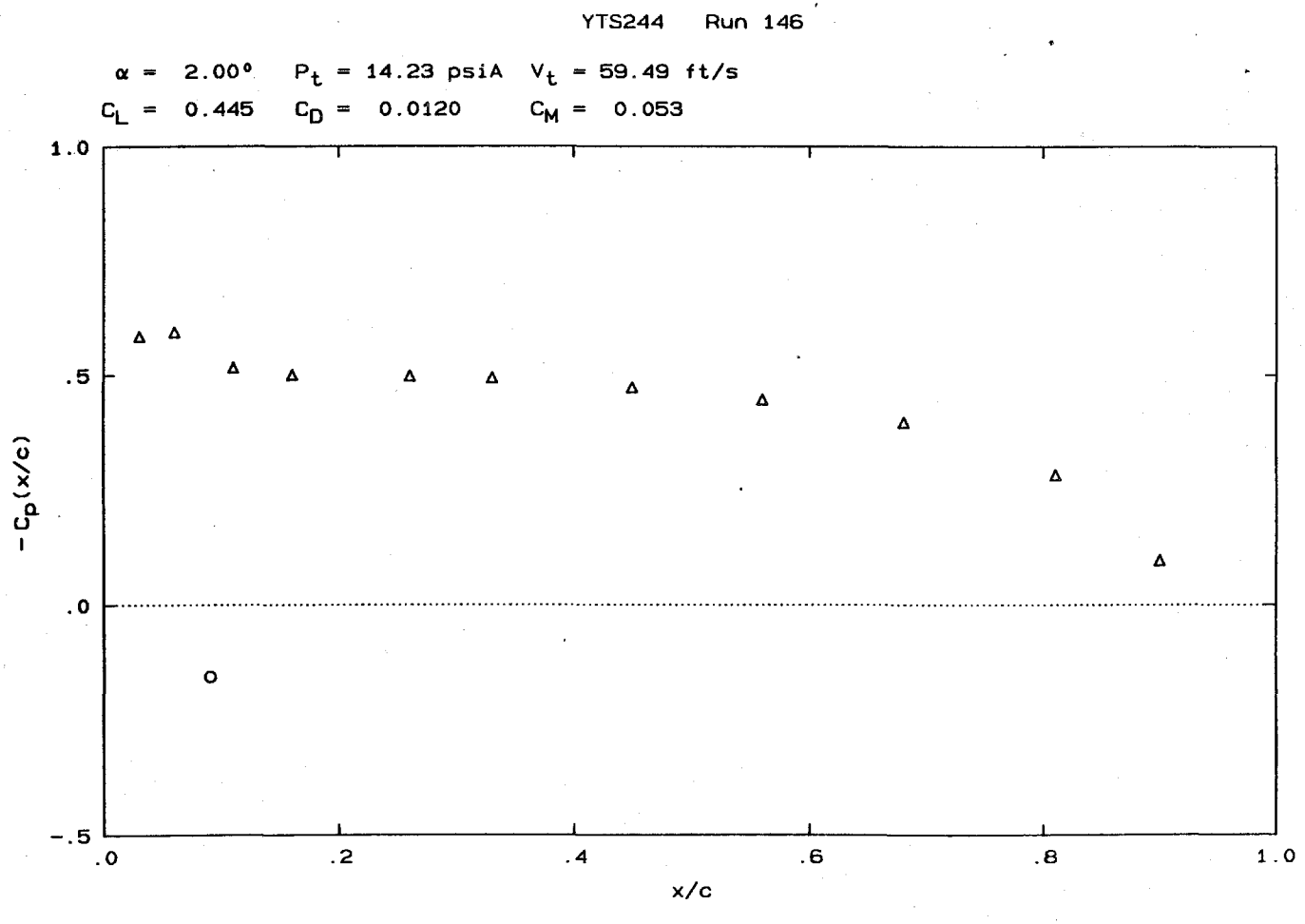
Pt = -0.32 psiG = 14.07 psiA
Pv = 24.15 Dpsi, Vt = 59.49 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 375.02 lbs, CL = 0.445
Drag = 10.09 lbs, CD = 0.0120
Moment = 22.32 ft-lbs, CM = 0.053

EOF YTS244.D03


YTS244 Run 146
α = 2.00° Pt = 14.23 psiA Vt = 59.49 ft/s
CL = 0.445 CD = 0.0120 CM = 0.053
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS245.D03      3-FEB-88
YTS245.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS245.dat    19-JUN-87
* Data processed using YTS225.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :  24.70  C
Water air content :   0.00  ml/lt



YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS245.D03 - Continued

Run number : 147
* cavity length fluctuates between 15 and 80 %with
* a slight change of pressure
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.282 ftHgA = 13.45 psiA
Speed manometer = 4.382 ftHgW = 59.22 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.2290	3.8621	-3.8189	-0.5941	-2.0378	-0.0101	0.7924
	0.0071	0.0145	0.0757	0.1321	0.3114	0.0071	0.0098
1	-0.1911	3.8250	-3.2971	-0.5642	-2.0780	0.0822	-2.6889
	0.0077	0.0129	0.0308	0.1013	0.0576	0.0050	0.0118
2	-0.2811	3.8697	-3.9064	-0.7076	-1.7553	0.1823	-2.6294
	0.0072	0.0169	0.1377	0.2390	0.7543	0.0056	0.0111
3	-0.1663	3.8176	-3.2759	-0.5608	-2.0518	0.2825	-2.5840
	0.0129	0.0193	0.0420	0.0972	0.0423	0.0053	0.0240
4	-0.2153	3.8307	-3.6517	-0.5106	-2.1752	0.3860	-2.7568
	0.0081	0.0128	0.0744	0.0724	0.1955	0.0066	0.0119
5	-0.2143	3.8283	-3.4321	-0.5400	-2.1333	0.4872	-2.7311
	0.0085	0.0170	0.1073	0.1119	0.1296	0.0063	0.0152
6	-0.2353	3.8402	-3.7515	-0.5659	-2.0697	0.5886	-2.6301
	0.0096	0.0171	0.0870	0.1080	0.2998	0.0093	0.0112
7	-0.2429	3.8615	-3.8291	-0.5894	-2.0119	0.6906	-2.5663
	0.0094	0.0133	0.0648	0.1192	0.4397	0.0124	0.0189
8	-0.2544	3.8631	-3.8335	-0.6221	-1.9747	0.7897	-2.5630
	0.0065	0.0149	0.0878	0.2001	0.2604	0.0095	0.0108
9	-0.2814	3.8808	-3.9061	-0.6853	-1.7333	0.8844	-2.6169
	0.0099	0.0120	0.0958	0.2602	0.2106	0.0080	0.0121
10	-0.2672	3.8707	-3.8583	-0.6334	-1.9108	0.9930	-2.3762
	0.0063	0.0129	0.1170	0.2617	0.3755	0.0130	0.0118
11	-0.2853	3.8672	-3.8682	-0.7015	-1.7925	1.0910	-0.4240
	0.0085	0.0117	0.1072	0.2746	0.2765	0.0103	0.2223
12	-0.2881	3.8799	-3.8710	-0.6790	-1.7542	1.1910	0.1848
	0.0133	0.0220	0.1568	0.2439	0.2531	0.0113	0.1039

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-0.93	23.86	448.39	13.63	22.45	0.00	4.18
1	-0.74	23.63	385.71	13.04	22.92	1.00	-13.22
2	-1.18	23.90	458.88	16.23	19.27	2.00	-12.93
3	-0.62	23.58	383.16	12.96	22.63	3.00	-12.70
4	-0.86	23.66	428.32	11.73	24.00	4.00	-13.56
5	-0.86	23.65	401.93	12.46	23.54	5.00	-13.44
6	-0.96	23.72	440.30	12.99	22.81	6.00	-12.93
7	-1.00	23.85	449.61	13.52	22.16	7.00	-12.61
8	-1.05	23.86	450.14	14.28	21.74	8.00	-12.60
9	-1.19	23.97	458.84	15.71	19.03	9.00	-12.86
10	-1.12	23.91	453.11	14.53	21.02	10.00	-11.66
11	-1.21	23.89	454.29	16.10	19.69	11.00	-1.90
12	-1.22	23.97	454.63	15.57	19.26	12.00	1.14
Averages	-1.00	23.80	435.95	14.05	21.59	6.00	-9.62

Total Forces (including tare forces) :

Lift	= 435.95 lbs,	CL =	0.515
Drag	= 14.05 lbs,	CD =	0.0166
Moment	= 21.59 ft-lbs,	CM =	0.051

Tunnel Pressure & Velocity :

Pt	= -1.00 psiG	=	13.40 psiA
Pv	= 23.80 Dpsi,	Vt =	59.07 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.18	-0.178
1	0.030	-13.22	0.567
2	0.060	-12.93	0.548
3	0.110	-12.70	0.546
4	0.160	-13.56	0.581
5	0.260	-13.44	0.576
6	0.330	-12.93	0.552
7	0.450	-12.61	0.536
8	0.560	-12.60	0.535
9	0.680	-12.86	0.544
10	0.810	-11.66	0.494
11	0.900	-1.90	0.081
12	0.950	1.14	-0.048

*
EOR

YTS245.D03 - Continued

Run number : 242
* tare run for run 147
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.276 ftHgA = 13.42 psiA
Speed manometer = 4.415 ftHgW = 59.44 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.3095	3.9295	-0.0643	-0.1174	0.0059	0.1086	0.1682
	0.0062	0.0186	0.0100	0.0920	0.0234	0.0024	0.0060
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-1.12	24.26	-5.02	3.42	0.00	0.00	1.67
Averages	-1.12	24.26	-5.02	3.42	0.00	0.00	1.67

Tare Forces :

Lift = -5.02 lbs, CL = -0.006
Drag = 3.42 lbs, CD = 0.0040
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

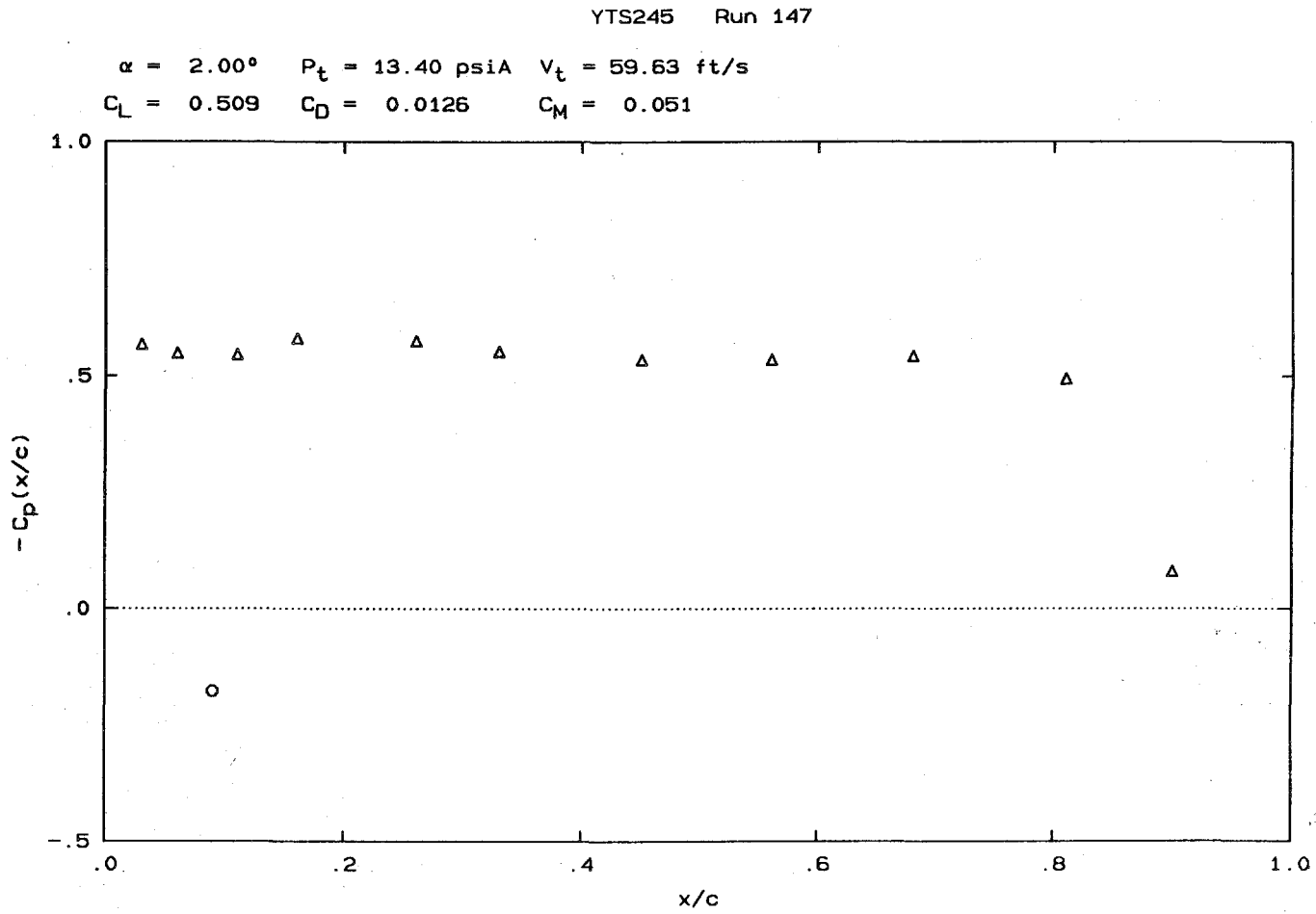
Pt = -1.12 psiG = 13.28 psiA
Pv = 24.26 Dpsi, Vt = 59.63 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 430.93 lbs, CL = 0.509
Drag = 10.64 lbs, CD = 0.0126
Moment = 21.59 ft-lbs, CM = 0.051

EOF YTS245.D03


YTS245 Run 147
α = 2.00° P_t = 13.40 psiA V_t = 59.63 ft/s
C_L = 0.509 C_D = 0.0126 C_M = 0.051
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

yts246.off 22-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.436 ft Hg (14.40 psiA)
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0408	0.0047	-0.0840	-0.0237	-0.0136	-0.0123	-0.0634
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

```
YTS247.D03      3-FEB-88
YTS247.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS247.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* surface roughened    2.0 deg   cav inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

```
YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS247.D03 - Continued

Run number : 149
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.742 ftHgA = 4.37 psiA
Speed manometer = 1.107 ftHgW = 29.76 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.0774	0.9868	-0.8359	-0.1848	-0.4984	-0.0115	0.0722
	0.0072	0.0048	0.0067	0.0162	0.0108	0.0022	0.0029
1	-2.0760	0.9861	-0.8394	-0.1848	-0.4988	0.0839	-0.6748
	0.0077	0.0054	0.0057	0.0117	0.0127	0.0021	0.0035
2	-2.0913	0.9996	-0.8490	-0.1845	-0.5070	0.1824	-0.6733
	0.0074	0.0055	0.0057	0.0185	0.0081	0.0019	0.0031
3	-2.0860	0.9865	-0.8407	-0.1828	-0.5014	0.2822	-0.6608
	0.0050	0.0045	0.0058	0.0134	0.0141	0.0026	0.0032
4	-2.0833	0.9933	-0.8445	-0.1851	-0.5030	0.3818	-0.6569
	0.0061	0.0058	0.0058	0.0133	0.0054	0.0024	0.0027
5	-2.0808	0.9886	-0.8400	-0.1832	-0.4978	0.4809	-0.6487
	0.0020	0.0054	0.0062	0.0148	0.0229	0.0020	0.0028
6	-2.0897	0.9966	-0.8461	-0.1842	-0.5048	0.5810	-0.6447
	0.0072	0.0055	0.0069	0.0140	0.0096	0.0027	0.0030
7	-2.0817	0.9913	-0.8435	-0.1841	-0.5008	0.6811	-0.6397
	0.0050	0.0055	0.0066	0.0133	0.0156	0.0018	0.0031
8	-2.0873	0.9965	-0.8456	-0.1845	-0.5031	0.7809	-0.6019
	0.0059	0.0052	0.0074	0.0178	0.0236	0.0016	0.0030
9	-2.0843	0.9931	-0.8423	-0.1800	-0.5025	0.8809	-0.5231
	0.0057	0.0060	0.0063	0.0120	0.0138	0.0013	0.0028
10	-2.0819	0.9895	-0.8383	-0.1805	-0.4969	0.9810	-0.3908
	0.0022	0.0048	0.0076	0.0169	0.0205	0.0012	0.0025
11	-2.0876	0.9922	-0.8444	-0.1843	-0.5022	1.0814	-0.1773
	0.0069	0.0054	0.0063	0.0188	0.0089	0.0049	0.0026
12	-2.0852	0.9903	-0.8452	-0.1832	-0.5033	1.1807	-0.0525
	0.0063	0.0053	0.0068	0.0131	0.0113	0.0045	0.0021

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-9.99	6.09	90.18	3.87	5.40	0.00	0.68
1	-9.98	6.08	90.60	3.87	5.41	1.00	-3.06
2	-10.06	6.17	91.75	3.86	5.50	2.00	-3.05
3	-10.03	6.09	90.76	3.82	5.44	3.00	-2.99
4	-10.02	6.13	91.21	3.87	5.45	4.00	-2.97
5	-10.01	6.10	90.67	3.83	5.40	5.00	-2.93
6	-10.05	6.15	91.40	3.85	5.47	6.00	-2.91
7	-10.01	6.12	91.09	3.85	5.43	7.00	-2.88
8	-10.04	6.15	91.34	3.86	5.45	8.00	-2.69
9	-10.03	6.13	90.95	3.75	5.45	9.00	-2.30
10	-10.01	6.11	90.47	3.77	5.39	10.00	-1.64
11	-10.04	6.12	91.20	3.85	5.44	11.00	-0.57
12	-10.03	6.11	91.30	3.83	5.46	12.00	0.05
Averages	-10.02	6.12	91.02	3.84	5.44	6.00	-2.10

Total Forces (including tare forces) :

Lift	=	91.02 lbs,	CL	=	0.419
Drag	=	3.84 lbs,	CD	=	0.0176
Moment	=	5.44 ft-lbs,	CM	=	0.050

Tunnel Pressure & Velocity :

Pt	= -10.02 psiG	=	4.33 psiA	
Pv	= 6.12 Dpsi,	Vt	= 29.95 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.68	-0.113
1	0.030	-3.06	0.509
2	0.060	-3.05	0.501
3	0.110	-2.99	0.497
4	0.160	-2.97	0.491
5	0.260	-2.93	0.486
6	0.330	-2.91	0.479
7	0.450	-2.88	0.477
8	0.560	-2.69	0.444
9	0.680	-2.30	0.380
10	0.810	-1.64	0.272
11	0.900	-0.57	0.094
12	0.950	0.05	-0.009

*
EOR

YTS247.D03 - Continued

Run number : 243
* tare run for run 149
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.714 ftHgA = 4.21 psiA
Speed manometer = 1.130 ftHgW = 30.08 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.1768	1.0097	-0.0883	-0.0552	0.0024	0.1086	1.8876
	0.0059	0.0031	0.0049	0.0209	0.0042	0.0023	0.0033
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.28	6.16	-1.61	1.36	0.00	0.00	10.26
Averages	-10.28	6.16	-1.61	1.36	0.00	0.00	10.26

Tare Forces :

Lift = -1.61 lbs, CL = -0.007
Drag = 1.36 lbs, CD = 0.0062
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -10.28 psiG = 4.12 psiA
Pv = 6.16 Dpsi, Vt = 30.04 ft/s

*
EOR

Model Forces (excluding tare forces) :

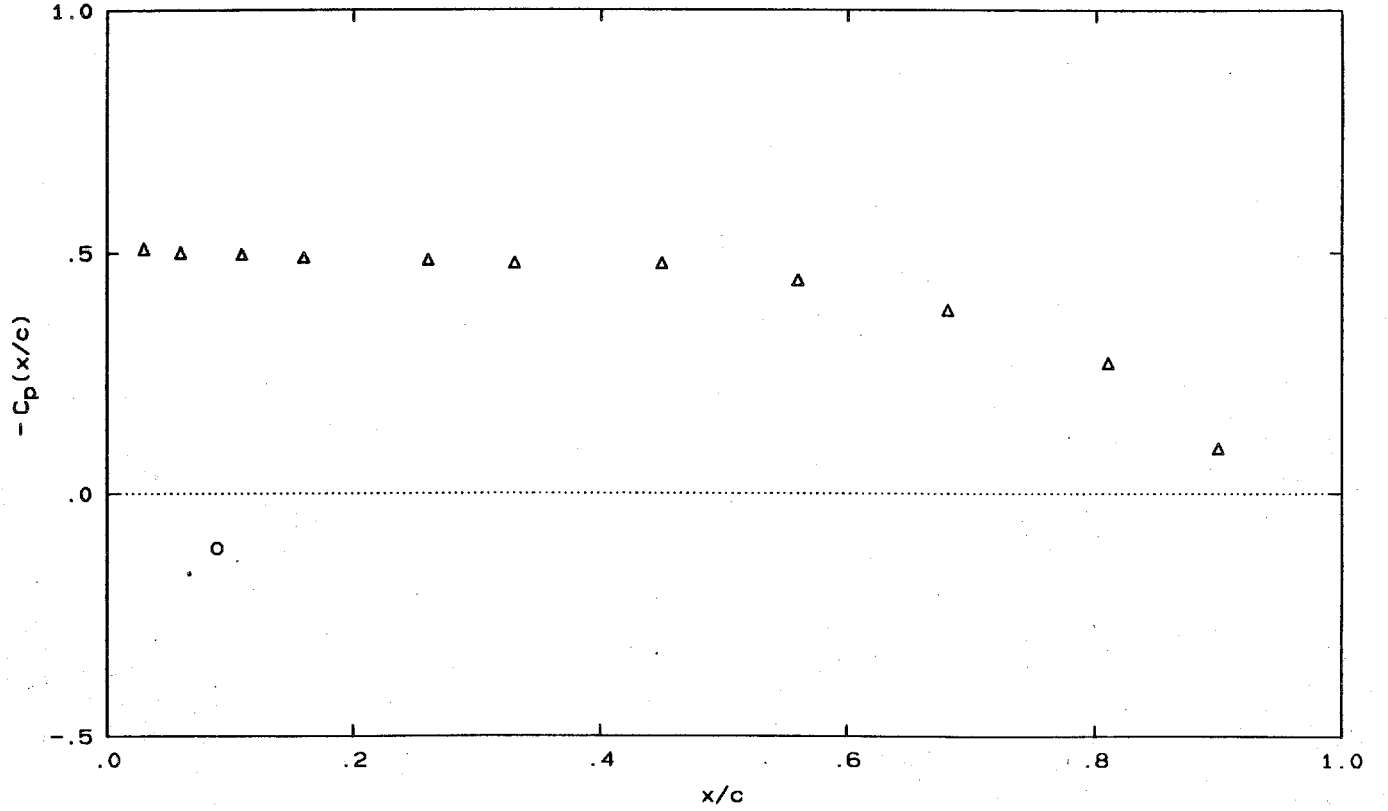
Lift = 89.41 lbs, CL = 0.411
Drag = 2.47 lbs, CD = 0.0114
Moment = 5.43 ft-lbs, CM = 0.050

EOF YTS247.D03

YTS247 Run 149

α = 2.00° P_t = 4.33 psiA V_t = 30.04 ft/s

C_L = 0.411 C_D = 0.0114 C_M = 0.050



YTS249.D03 3-FEB-88
YTS249.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS249.dat 22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.436 ft HgA, = 14.36 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS313.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS249.D03 - Continued

Run number : 151
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.648 ftHgA = 3.82 psiA
Speed manometer = 1.106 ftHgW = 29.76 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2003	0.9975	-0.8423	-0.1870	-0.5022	-0.0114	0.0754
	0.0075	0.0053	0.0095	0.0117	0.0129	0.0021	0.0031
1	-2.1904	0.9923	-0.8473	-0.1825	-0.5052	0.0838	-0.6795
	0.0019	0.0055	0.0060	0.0121	0.0120	0.0021	0.0031
2	-2.1822	0.9904	-0.8372	-0.1847	-0.4980	0.1824	-0.6742
	0.0044	0.0053	0.0072	0.0138	0.0107	0.0019	0.0030
3	-2.1935	1.0000	-0.8568	-0.1830	-0.5121	0.2822	-0.6571
	0.0048	0.0056	0.0055	0.0111	0.0166	0.0025	0.0029
4	-2.2012	0.9819	-0.8421	-0.1793	-0.5003	0.3818	-0.6414
	0.0073	0.0041	0.0057	0.0139	0.0086	0.0024	0.0040
5	-2.2128	0.9898	-0.8559	-0.1806	-0.5092	0.4807	-0.6491
	0.0090	0.0052	0.0064	0.0158	0.0206	0.0020	0.0032
6	-2.2017	0.9864	-0.8437	-0.1833	-0.5016	0.5809	-0.6442
	0.0063	0.0047	0.0065	0.0155	0.0138	0.0027	0.0026
7	-2.1952	0.9873	-0.8424	-0.1794	-0.4988	0.6810	-0.6380
	0.0065	0.0059	0.0088	0.0130	0.0179	0.0018	0.0036
8	-2.1948	0.9927	-0.8535	-0.1813	-0.5095	0.7809	-0.5855
	0.0059	0.0057	0.0057	0.0112	0.0099	0.0015	0.0031
9	-2.2022	0.9969	-0.8514	-0.1808	-0.5079	0.8809	-0.5086
	0.0028	0.0068	0.0058	0.0172	0.0089	0.0014	0.0025
10	-2.1977	0.9932	-0.8493	-0.1822	-0.5058	0.9809	-0.3885
	0.0062	0.0052	0.0078	0.0138	0.0084	0.0007	0.0025
11	-2.1887	0.9853	-0.8419	-0.1831	-0.4984	1.0813	-0.1719
	0.0000	0.0044	0.0074	0.0139	0.0211	0.0049	0.0025
12	-2.1987	0.9909	-0.8477	-0.1806	-0.5054	1.1806	-0.0491
	0.0078	0.0052	0.0063	0.0149	0.0163	0.0045	0.0025

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.59	6.16	90.95	3.92	5.44	0.00	0.69
1	-10.55	6.12	91.55	3.81	5.48	1.00	-3.08
2	-10.51	6.11	90.34	3.86	5.40	2.00	-3.05
3	-10.56	6.17	92.69	3.82	5.55	3.00	-2.97
4	-10.60	6.06	90.93	3.74	5.42	4.00	-2.89
5	-10.66	6.11	92.58	3.77	5.52	5.00	-2.93
6	-10.60	6.09	91.12	3.83	5.44	6.00	-2.90
7	-10.57	6.09	90.96	3.74	5.41	7.00	-2.87
8	-10.57	6.13	92.29	3.78	5.53	8.00	-2.61
9	-10.60	6.15	92.04	3.77	5.51	9.00	-2.23
10	-10.58	6.13	91.79	3.80	5.48	10.00	-1.63
11	-10.54	6.08	90.90	3.82	5.40	11.00	-0.54
12	-10.59	6.11	91.60	3.77	5.48	12.00	0.07
Averages	-10.58	6.12	91.55	3.80	5.47	6.00	-2.07

Total Forces (including tare forces) :

Lift	= 91.55 lbs,	CL =	0.421
Drag	= 3.80 lbs,	CD =	0.0175
Moment	= 5.47 ft-lbs,	CM =	0.050

Tunnel Pressure & Velocity :

Pt	= -10.58 psiG	=	3.78 psiA
Pv	= 6.12 Dpsi,	Vt =	29.94 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.69	-0.114
1	0.030	-3.08	0.510
2	0.060	-3.05	0.506
3	0.110	-2.97	0.487
4	0.160	-2.89	0.483
5	0.260	-2.93	0.486
6	0.330	-2.90	0.483
7	0.450	-2.87	0.478
8	0.560	-2.61	0.432
9	0.680	-2.23	0.367
10	0.810	-1.63	0.269
11	0.900	-0.54	0.090
12	0.950	0.07	-0.012

*
EOR

YTS249.D03 - Continued

Run number : 245
* tare run for run 151
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.603 ftHgA = 3.55 psiA
Speed manometer = 1.157 ftHgW = 30.43 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2965	1.0398	-0.0896	-0.0553	0.0019	0.1087	1.9985
	0.0049	0.0047	0.0057	0.0200	0.0034	0.0023	0.0072
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.86	6.35	-1.46	1.37	0.00	0.00	10.82
Averages	-10.86	6.35	-1.46	1.37	0.00	0.00	10.82

Tare Forces :

Lift = -1.46 lbs, CL = -0.006
Drag = 1.37 lbs, CD = 0.0061
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

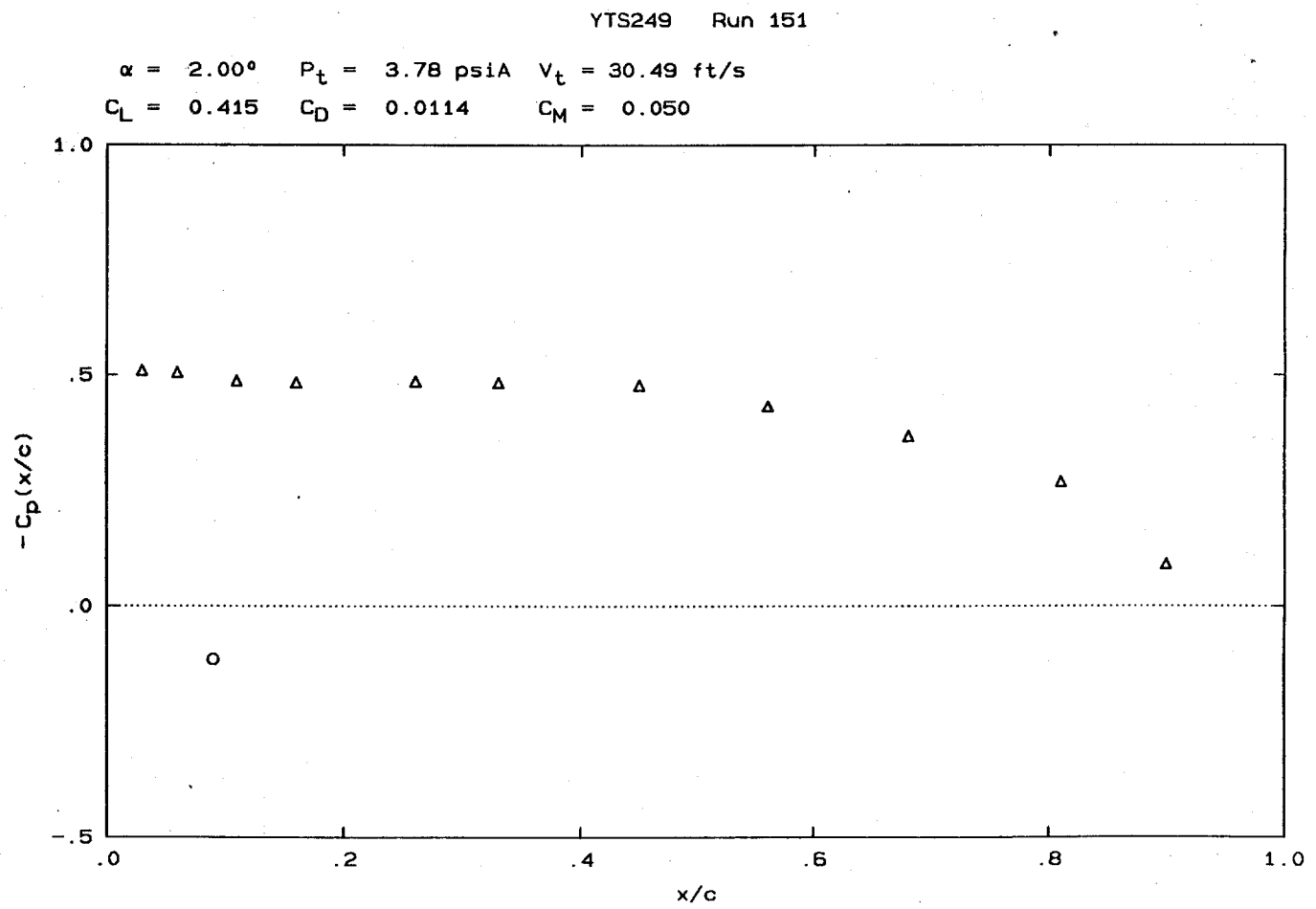
Pt = -10.86 psiG = 3.53 psiA
Pv = 6.35 Dpsi, Vt = 30.49 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 90.09 lbs, CL = 0.415
Drag = 2.43 lbs, CD = 0.0114
Moment = 5.47 ft-lbs, CM = 0.050

EOF YTS249.D03


YTS249 Run 151
α = 2.00° Pt = 3.78 psiA Vt = 30.49 ft/s
CL = 0.415 CD = 0.0114 CM = 0.050
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS250.D03      3-FEB-88
YTS250.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS250.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
*  cavity fluctuates around 60 to 80%
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS250.D03 - Continued

Run number : 152
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.616 ftHgA = 3.63 psiA
Speed manometer = 1.117 ftHgW = 29.89 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2502	0.9981	-0.8807	-0.1801	-0.5177	-0.0113	0.0886
	0.0070	0.0055	0.0071	0.0122	0.0281	0.0021	0.0029
1	-2.2368	0.9891	-0.8577	-0.1801	-0.5079	0.0838	-0.7317
	0.0045	0.0052	0.0125	0.0166	0.0220	0.0021	0.0036
2	-2.2378	0.9898	-0.8555	-0.1814	-0.5082	0.1824	-0.6619
	0.0035	0.0052	0.0075	0.0129	0.0096	0.0019	0.0039
3	-2.2421	0.9917	-0.8544	-0.1829	-0.5069	0.2822	-0.7068
	0.0037	0.0056	0.0066	0.0145	0.0089	0.0025	0.0038
4	-2.2407	0.9977	-0.8641	-0.1815	-0.5101	0.3816	-0.6709
	0.0032	0.0056	0.0080	0.0123	0.0335	0.0024	0.0031
5	-2.2788	1.0183	-0.9398	-0.2355	-0.4029	0.4811	-0.6517
	0.0062	0.0067	0.0274	0.0271	0.1006	0.0020	0.0024
6	-2.2549	1.0085	-0.9564	-0.1968	-0.4807	0.5810	-0.6561
	0.0038	0.0053	0.0126	0.0177	0.0436	0.0027	0.0042
7	-2.2397	0.9920	-0.8602	-0.1820	-0.5102	0.6811	-0.7236
	0.0086	0.0071	0.0068	0.0119	0.0156	0.0017	0.0063
8	-2.2566	1.0092	-0.9543	-0.2045	-0.4749	0.7809	-0.7105
	0.0046	0.0058	0.0196	0.0189	0.0459	0.0015	0.0047
9	-2.2486	1.0072	-0.8804	-0.1811	-0.5131	0.8809	-0.6779
	0.0080	0.0072	0.0101	0.0145	0.0223	0.0016	0.0073
10	-2.2291	0.9942	-0.8536	-0.1832	-0.5084	0.9810	-0.3896
	0.0071	0.0058	0.0052	0.0152	0.0103	0.0007	0.0025
11	-2.2150	0.9883	-0.8445	-0.1817	-0.5039	1.0813	-0.1713
	0.0062	0.0051	0.0063	0.0138	0.0092	0.0048	0.0025
12	-2.2200	0.9854	-0.8448	-0.1790	-0.5040	1.1806	-0.0469
	0.0037	0.0046	0.0067	0.0140	0.0101	0.0044	0.0026

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.84	6.16	95.56	3.75	5.62	0.00	0.76
1	-10.77	6.10	92.80	3.75	5.51	1.00	-3.34
2	-10.78	6.11	92.53	3.78	5.51	2.00	-2.99
3	-10.80	6.12	92.40	3.82	5.50	3.00	-3.22
4	-10.79	6.16	93.57	3.79	5.53	4.00	-3.04
5	-10.98	6.28	102.65	5.02	4.33	5.00	-2.94
6	-10.86	6.22	104.65	4.12	5.20	6.00	-2.96
7	-10.79	6.12	93.10	3.80	5.53	7.00	-3.30
8	-10.87	6.23	104.40	4.30	5.13	8.00	-3.24
9	-10.83	6.22	95.52	3.78	5.57	9.00	-3.07
10	-10.74	6.13	92.31	3.83	5.51	10.00	-1.63
11	-10.67	6.10	91.21	3.79	5.46	11.00	-0.54
12	-10.69	6.08	91.25	3.73	5.46	12.00	0.08
Averages	-10.80	6.16	95.53	3.94	5.38	6.00	-2.26

Total Forces (including tare forces) :

Lift	= 95.53 lbs,	CL =	0.437
Drag	= 3.94 lbs,	CD =	0.0180
Moment	= 5.38 ft-lbs,	CM =	0.049

Tunnel Pressure & Velocity :

Pt	= -10.80 psiG	=	3.56 psiA
Pv	= 6.16 Dpsi,	Vt =	30.04 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.76	-0.125
1	0.030	-3.34	0.555
2	0.060	-2.99	0.496
3	0.110	-3.22	0.533
4	0.160	-3.04	0.500
5	0.260	-2.94	0.474
6	0.330	-2.96	0.482
7	0.450	-3.30	0.546
8	0.560	-3.24	0.526
9	0.680	-3.07	0.501
10	0.810	-1.63	0.269
11	0.900	-0.54	0.090
12	0.950	0.08	-0.014

* will be rerun
*
EOR

Run number : 246
* tare run for run 152
* .609 ft/Hg abs
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.555 ftHgA = 3.27 psiA
Speed manometer = 1.157 ftHgW = 30.42 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3497	1.0365	-0.0885	-0.0545	0.0028	0.1087	2.0524
	0.0051	0.0045	0.0053	0.0155	0.0038	0.0023	0.0083
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.13	6.32	-1.59	1.35	-0.01	0.00	11.09
Averages	-11.13	6.32	-1.59	1.35	-0.01	0.00	11.09

Tare Forces :

Lift = -1.59 lbs, CL = -0.007
Drag = 1.35 lbs, CD = 0.0060
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

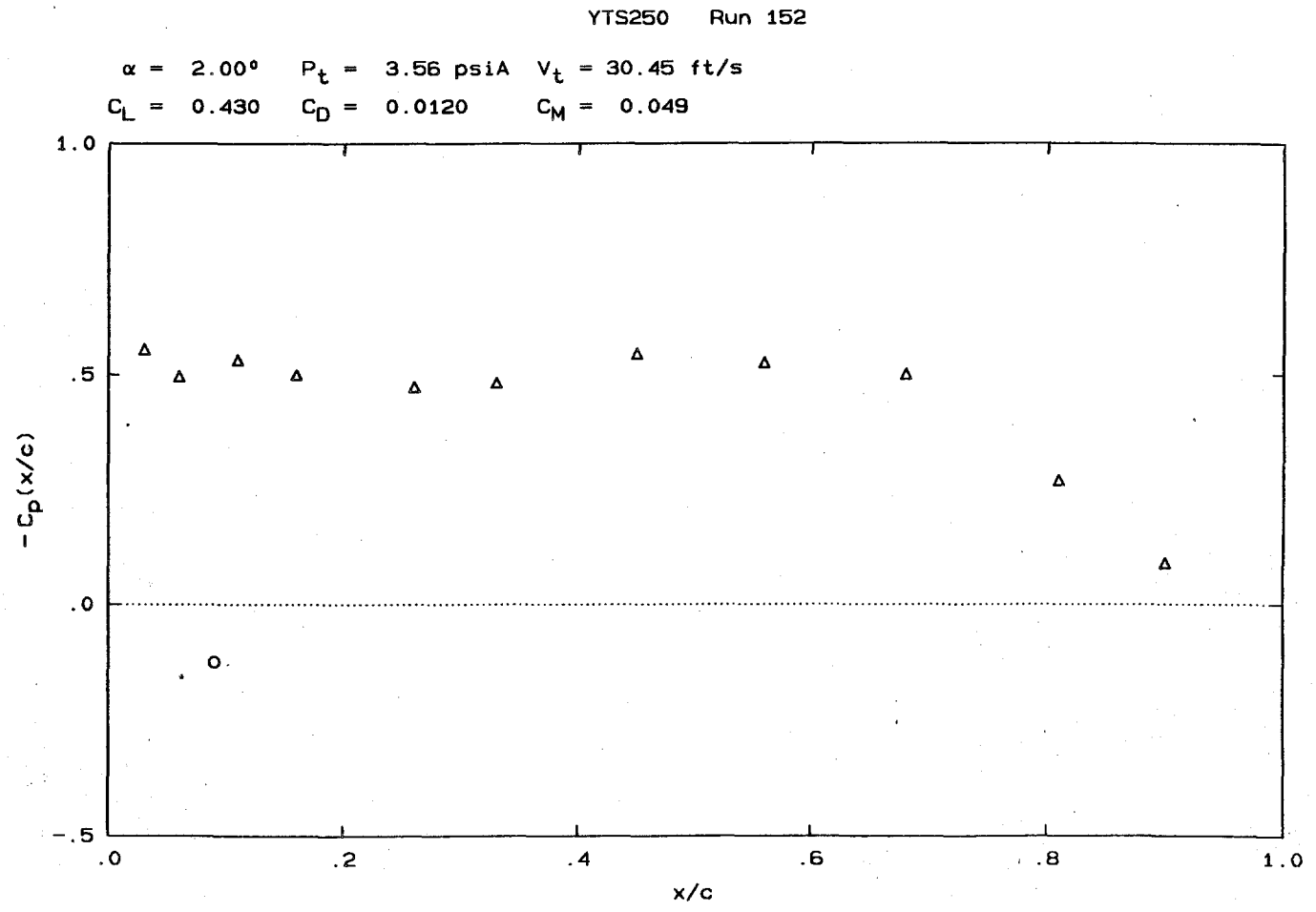
Pt = -11.13 psiG = 3.27 psiA
Pv = 6.32 Dpsi, Vt = 30.45 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 93.94 lbs, CL = 0.430
Drag = 2.59 lbs, CD = 0.0120
Moment = 5.37 ft-lbs, CM = 0.049

EOF YTS250.D03


YTS250 Run 152
α = 2.00° P_t = 3.56 psiA V_t = 30.45 ft/s
C_L = 0.430 C_D = 0.0120 C_M = 0.049
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS251.D03      3-FEB-88
YTS251.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS251.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* air flushed out from the tunnel
* repeat of run no 152
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS251.D03 - Continued

Run number : 153
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.561 ftHgA = 3.31 psiA
Speed manometer = 1.140 ftHgW = 30.21 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2829	1.0058	-0.9429	-0.2323	-0.4009	-0.0114	0.0967
	0.0057	0.0055	0.0213	0.0283	0.0768	0.0022	0.0032
1	-2.2793	1.0041	-0.9485	-0.2354	-0.3955	0.0838	-0.6433
	0.0028	0.0056	0.0244	0.0287	0.1102	0.0022	0.0041
2	-2.2821	1.0060	-0.9416	-0.2313	-0.4021	0.1825	-0.6488
	0.0057	0.0055	0.0229	0.0282	0.0553	0.0020	0.0027
3	-2.2828	1.0062	-0.9486	-0.2255	-0.4063	0.2823	-0.6461
	0.0049	0.0058	0.0259	0.0236	0.0879	0.0025	0.0027
4	-2.2803	1.0027	-0.9432	-0.2197	-0.4190	0.3820	-0.6367
	0.0056	0.0054	0.0185	0.0168	0.0687	0.0023	0.0024
5	-2.2774	1.0000	-0.9489	-0.2209	-0.4151	0.4809	-0.6398
	0.0058	0.0056	0.0221	0.0236	0.0732	0.0021	0.0030
6	-2.2784	1.0041	-0.9449	-0.2160	-0.4336	0.5811	-0.6396
	0.0061	0.0058	0.0216	0.0243	0.0722	0.0027	0.0031
7	-2.2790	1.0042	-0.9469	-0.2221	-0.4099	0.6812	-0.6373
	0.0058	0.0055	0.0211	0.0258	0.0641	0.0019	0.0023
8	-2.2845	1.0109	-0.9381	-0.2344	-0.3967	0.7811	-0.6320
	0.0063	0.0055	0.0272	0.0264	0.1384	0.0014	0.0031
9	-2.2765	1.0067	-0.9511	-0.2278	-0.4106	0.8811	-0.6402
	0.0065	0.0057	0.0227	0.0244	0.0817	0.0012	0.0030
10	-2.2742	1.0039	-0.9511	-0.2191	-0.4232	0.9811	-0.6010
	0.0077	0.0055	0.0205	0.0242	0.0634	0.0011	0.0032
11	-2.2788	1.0072	-0.9480	-0.2349	-0.4047	1.0816	-0.3057
	0.0043	0.0055	0.0239	0.0232	0.0569	0.0050	0.0142
12	-2.2814	1.0087	-0.9457	-0.2325	-0.3992	1.1809	-0.0564
	0.0046	0.0054	0.0258	0.0405	0.1134	0.0047	0.0073

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.00	6.21	103.02	4.94	4.30	0.00	0.80
1	-10.98	6.20	103.70	5.01	4.24	1.00	-2.90
2	-11.00	6.21	102.87	4.92	4.32	2.00	-2.93
3	-11.00	6.21	103.71	4.78	4.36	3.00	-2.91
4	-10.99	6.19	103.06	4.65	4.51	4.00	-2.87
5	-10.97	6.17	103.75	4.68	4.46	5.00	-2.88
6	-10.98	6.20	103.27	4.57	4.67	6.00	-2.88
7	-10.98	6.20	103.51	4.71	4.40	7.00	-2.87
8	-11.01	6.24	102.45	4.99	4.26	8.00	-2.84
9	-10.97	6.21	104.01	4.84	4.41	9.00	-2.88
10	-10.96	6.20	104.01	4.64	4.55	10.00	-2.69
11	-10.98	6.22	103.64	5.00	4.34	11.00	-1.21
12	-10.99	6.22	103.36	4.95	4.28	12.00	0.03
Averages	-10.98	6.20	103.44	4.82	4.39	6.00	-2.23

Total Forces (including tare forces) :

Lift	= 103.44 lbs,	CL =	0.469
Drag	= 4.82 lbs,	CD =	0.0219
Moment	= 4.39 ft-lbs,	CM =	0.040

Tunnel Pressure & Velocity :

Pt	= -10.98 psiG	=	3.37 psiA
Pv	= 6.20 Dpsi,	Vt =	30.16 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.80	-0.131
1	0.030	-2.90	0.474
2	0.060	-2.93	0.478
3	0.110	-2.91	0.475
4	0.160	-2.87	0.469
5	0.260	-2.88	0.473
6	0.330	-2.88	0.471
7	0.450	-2.87	0.469
8	0.560	-2.84	0.462
9	0.680	-2.88	0.470
10	0.810	-2.69	0.440
11	0.900	-1.21	0.197
12	0.950	0.03	-0.006

*
EOR

Run number : 246 (repeat)
* tare run for run 153
* .609 ft/Hg abs
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.555 ftHgA = 3.27 psiA
Speed manometer = 1.157 ftHgW = 30.42 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3497	1.0365	-0.0885	-0.0545	0.0028	0.1087	2.0524
	0.0051	0.0045	0.0053	0.0155	0.0038	0.0023	0.0083
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.13	6.32	-1.59	1.35	-0.01	0.00	11.09
Averages	-11.13	6.32	-1.59	1.35	-0.01	0.00	11.09

Tare Forces :

Lift = -1.59 lbs, CL = -0.007
Drag = 1.35 lbs, CD = 0.0060
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

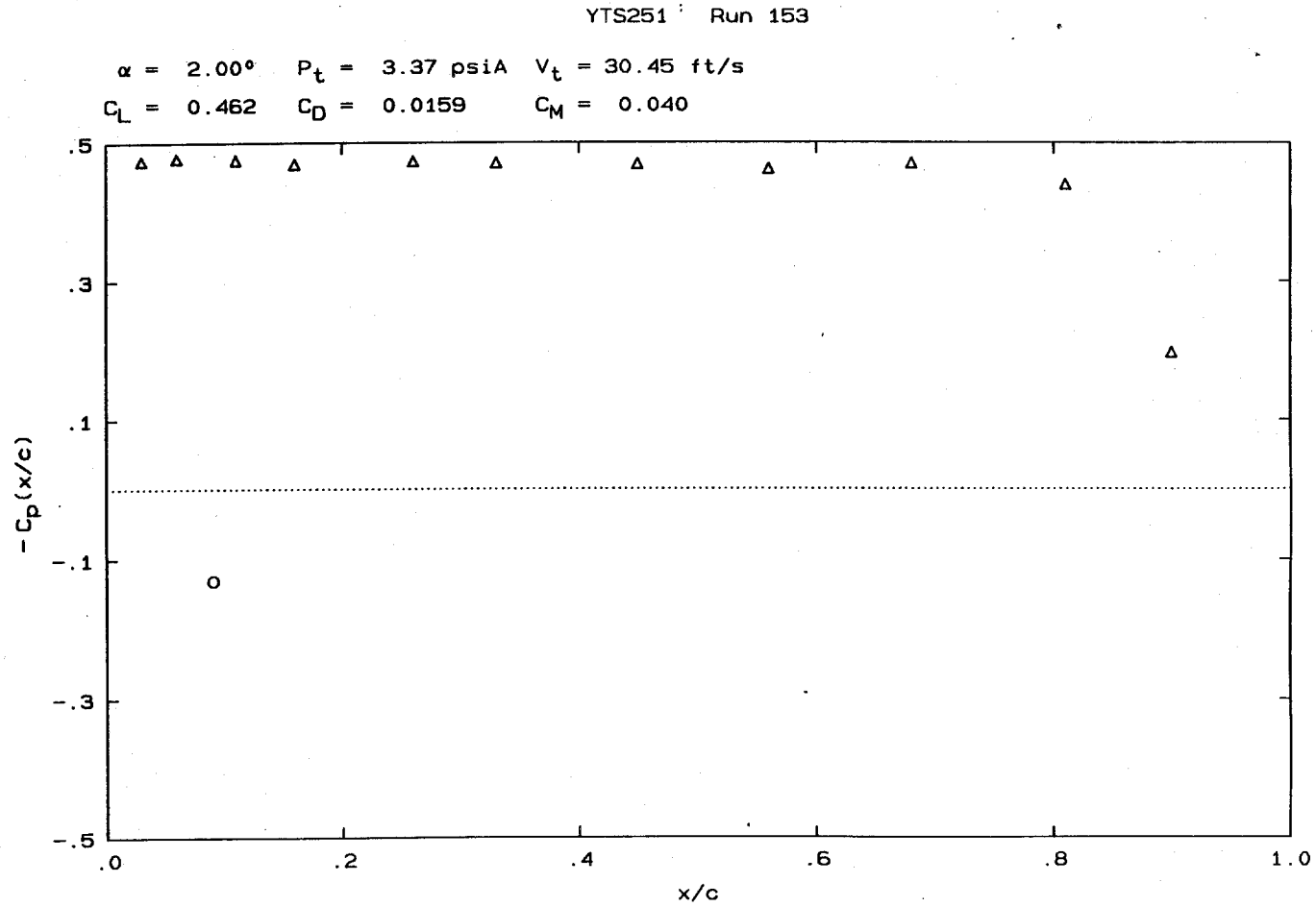
Pt = -11.13 psiG = 3.27 psiA
Pv = 6.32 Dpsi, Vt = 30.45 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 101.85 lbs, CL = 0.462
Drag = 3.47 lbs, CD = 0.0159
Moment = 4.39 ft-lbs, CM = 0.040

Note that photo no. in this run is mislabeled
#
EOF YTS251.D03


YTS251 : Run 153
α = 2.00° Pt = 3.37 psiA Vt = 30.45 ft/s
CL = 0.462 CD = 0.0159 CM = 0.040
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS253.D03      3-FEB-88
YTS253.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS253.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* fully wetted run
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt



YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS253.D03 - Continued

Run number : 155
*
Angle of attack : 2.00 degrees
Tunnel pressure = 1.480 ftHgA = 8.72 psiA
Speed manometer = 1.092 ftHgW = 29.56 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1671	0.9554	-0.8292	-0.1798	-0.4808	-0.0112	0.0723
	0.0019	0.0041	0.0066	0.0158	0.0110	0.0021	0.0032
1	-1.1744	0.9611	-0.8335	-0.1809	-0.4814	0.0839	-0.6826
	0.0021	0.0036	0.0071	0.0170	0.0168	0.0021	0.0034
2	-1.1761	0.9607	-0.8356	-0.1817	-0.4839	0.1824	-0.6675
	0.0015	0.0040	0.0065	0.0186	0.0116	0.0019	0.0026
3	-1.1696	0.9555	-0.8315	-0.1779	-0.4804	0.2823	-0.6493
	0.0015	0.0042	0.0075	0.0175	0.0082	0.0026	0.0029
4	-1.1728	0.9580	-0.8341	-0.1807	-0.4808	0.3818	-0.6452
	0.0024	0.0039	0.0057	0.0160	0.0126	0.0024	0.0035
5	-1.1623	0.9547	-0.8278	-0.1776	-0.4780	0.4808	-0.6386
	0.0055	0.0043	0.0081	0.0206	0.0086	0.0020	0.0035
6	-1.1808	0.9659	-0.8363	-0.1802	-0.4850	0.5811	-0.6350
	0.0038	0.0042	0.0076	0.0231	0.0101	0.0027	0.0031
7	-1.1725	0.9592	-0.8324	-0.1787	-0.4806	0.6812	-0.6161
	0.0023	0.0039	0.0065	0.0191	0.0071	0.0020	0.0026
8	-1.1704	0.9556	-0.8285	-0.1780	-0.4796	0.7810	-0.5886
	0.0022	0.0044	0.0066	0.0171	0.0228	0.0016	0.0035
9	-1.1701	0.9532	-0.8306	-0.1772	-0.4792	0.8811	-0.5178
	0.0033	0.0046	0.0069	0.0154	0.0132	0.0014	0.0027
10	-1.1761	0.9577	-0.8285	-0.1783	-0.4801	0.9811	-0.3823
	0.0009	0.0037	0.0080	0.0159	0.0193	0.0014	0.0027
11	-1.1675	0.9516	-0.8261	-0.1771	-0.4769	1.0815	-0.1705
	0.0029	0.0046	0.0060	0.0221	0.0068	0.0050	0.0026
12	-1.1773	0.9614	-0.8352	-0.1799	-0.4816	1.1808	-0.0485
	0.0030	0.0037	0.0078	0.0199	0.0138	0.0045	0.0028

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.53	5.89	89.38	3.74	5.20	0.00	0.68
1	-5.56	5.93	89.90	3.77	5.21	1.00	-3.10
2	-5.57	5.93	90.15	3.79	5.24	2.00	-3.02
3	-5.54	5.89	89.66	3.70	5.20	3.00	-2.93
4	-5.55	5.91	89.97	3.76	5.20	4.00	-2.91
5	-5.50	5.89	89.21	3.69	5.17	5.00	-2.88
6	-5.59	5.96	90.23	3.75	5.25	6.00	-2.86
7	-5.55	5.92	89.76	3.72	5.20	7.00	-2.76
8	-5.54	5.90	89.30	3.70	5.19	8.00	-2.63
9	-5.54	5.88	89.55	3.68	5.19	9.00	-2.27
10	-5.57	5.91	89.30	3.71	5.20	10.00	-1.59
11	-5.53	5.87	89.01	3.68	5.16	11.00	-0.54
12	-5.58	5.93	90.10	3.74	5.21	12.00	0.07
Averages	-5.55	5.91	89.68	3.73	5.20	6.00	-2.06

Total Forces (including tare forces) :

Lift	=	89.68 lbs,	CL =	0.427
Drag	=	3.73 lbs,	CD =	0.0177
Moment	=	5.20 ft-lbs,	CM =	0.050

Tunnel Pressure & Velocity :

Pt	=	-5.55 psiG	=	8.81 psiA
Pv	=	5.91 Dpsi,	Vt =	29.43 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.68	-0.117
1	0.030	-3.10	0.529
2	0.060	-3.02	0.516
3	0.110	-2.93	0.504
4	0.160	-2.91	0.499
5	0.260	-2.88	0.495
6	0.330	-2.86	0.486
7	0.450	-2.76	0.473
8	0.560	-2.63	0.451
9	0.680	-2.27	0.391
10	0.810	-1.59	0.273
11	0.900	-0.54	0.092
12	0.950	0.07	-0.013

*
EOR

Run number : 248
* tare run for run 155
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.639 ftHgA = 15.55 psiA
Speed manometer = 1.115 ftHgW = 29.87 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.1864	1.0018	-0.0874	-0.0393	0.0035	0.1087	-0.4147
	0.0042	0.0071	0.0050	0.0196	0.0040	0.0023	0.0037
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.32	6.11	-1.72	0.99	-0.02	0.00	-1.25
Averages	1.32	6.11	-1.72	0.99	-0.02	0.00	-1.25

Tare Forces :

Lift = -1.72 lbs, CL = -0.008
Drag = 0.99 lbs, CD = 0.0046
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

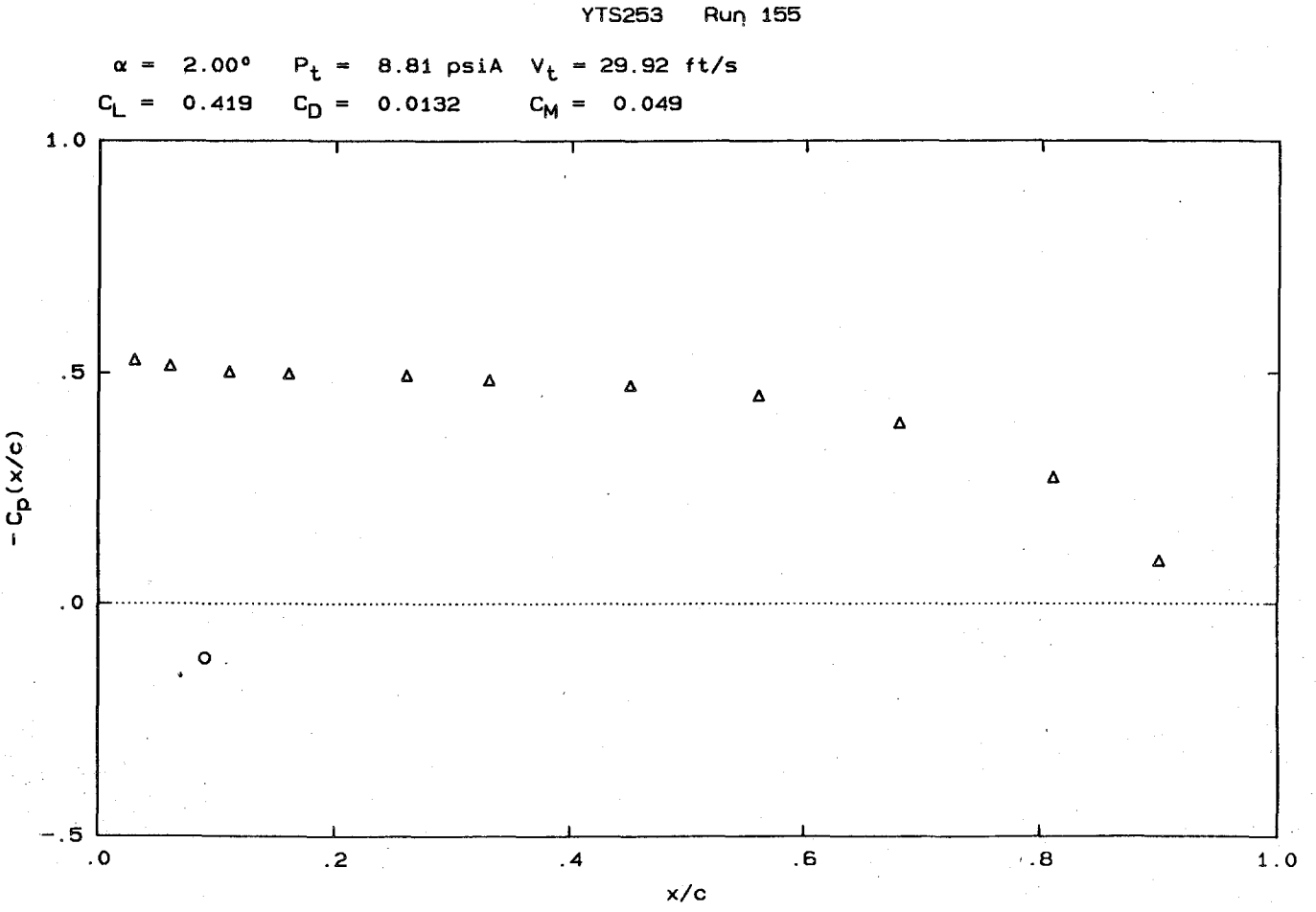
Pt = 1.32 psiG = 15.71 psiA
Pv = 6.11 Dpsi, Vt = 29.92 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 87.96 lbs, CL = 0.419
Drag = 2.73 lbs, CD = 0.0132
Moment = 5.19 ft-lbs, CM = 0.049

EOF YTS253.D03


YTS253 Run 155
α = 2.00° Pt = 8.81 psiA Vt = 29.92 ft/s
CL = 0.419 CD = 0.0132 CM = 0.049
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS254.D03 3-FEB-88
YTS254.D01 3-DEC-87
Using YTS202_263.COR correction file.

YTS254.dat 22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* foil angle is 1 deg
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.436 ft HgA, = 14.36 psiA
Water temperature : 24.60 C
Water air content : 0.00 ml/lt

YTS313.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS254.D03 - Continued

Run number : 156
* cavitation inception
*
Angle of attack : 1.00 degrees
Tunnel pressure = 3.215 ftHgA = 18.95 psiA
Speed manometer = 0.004 ftHgW = 1.69 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7058	3.9263	-2.3106	-0.5709	-0.7736	-0.0112	0.0504
	0.0098	0.0146	0.0257	0.1382	0.0401	0.0021	0.0049
1	-0.6577	3.9067	-2.3008	-0.5485	-0.7652	0.0837	-1.3237
	0.0106	0.0171	0.0203	0.1346	0.0297	0.0020	0.0115
2	-0.6741	3.9440	-2.3203	-0.5618	-0.7723	0.1824	-1.5637
	0.0108	0.0168	0.0218	0.1304	0.0394	0.0019	0.0100
3	-0.7167	3.9749	-2.3287	-0.5230	-0.7730	0.2820	-1.7628
	0.0057	0.0125	0.0284	0.1287	0.0627	0.0024	0.0090
4	-0.6141	3.8884	-2.2777	-0.5151	-0.7671	0.3813	-1.8808
	0.0123	0.0188	0.0300	0.1711	0.0514	0.0024	0.0173
5	-0.7086	3.9391	-2.3122	-0.5391	-0.7770	0.4804	-1.9931
	0.0095	0.0178	0.0285	0.1510	0.0396	0.0020	0.0121
6	-0.6760	3.9113	-2.2972	-0.5563	-0.7716	0.5805	-1.9950
	0.0088	0.0186	0.0323	0.1462	0.0287	0.0027	0.0094
7	-0.6906	3.9143	-2.2988	-0.5514	-0.7740	0.6806	-2.0223
	0.0049	0.0169	0.0287	0.1458	0.0304	0.0018	0.0038
8	-0.6882	3.9252	-2.3079	-0.5394	-0.7693	0.7805	-1.9845
	0.0090	0.0164	0.0241	0.1622	0.0349	0.0014	0.0091
9	-0.6712	3.9130	-2.2952	-0.5241	-0.7655	0.8803	-1.7675
	0.0051	0.0218	0.0319	0.1611	0.0554	0.0014	0.0078
10	-0.6565	3.8855	-2.2779	-0.5488	-0.7576	0.9804	-1.2804
	0.0057	0.0132	0.0272	0.1556	0.0408	0.0009	0.0077
11	-0.6904	3.9086	-2.2956	-0.5324	-0.7661	1.0809	-0.4625
	0.0067	0.0170	0.0261	0.1475	0.0305	0.0048	0.0045
12	-0.7097	3.9306	-2.3031	-0.5597	-0.7689	1.1801	0.0241
	0.0059	0.0155	0.0280	0.1333	0.0442	0.0040	0.0056

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.26	24.31	266.83	13.22	8.45	0.00	0.57
1	-3.03	24.19	265.65	12.70	8.35	1.00	-6.30
2	-3.11	24.42	267.99	13.01	8.43	2.00	-7.50
3	-3.32	24.62	269.00	12.11	8.44	3.00	-8.50
4	-2.81	24.08	262.88	11.92	8.38	4.00	-9.09
5	-3.28	24.39	267.02	12.48	8.49	5.00	-9.65
6	-3.12	24.22	265.22	12.88	8.42	6.00	-9.66
7	-3.19	24.24	265.41	12.77	8.45	7.00	-9.79
8	-3.18	24.31	266.50	12.49	8.40	8.00	-9.61
9	-3.09	24.23	264.98	12.13	8.36	9.00	-8.52
10	-3.02	24.06	262.91	12.70	8.27	10.00	-6.09
11	-3.19	24.20	265.03	12.32	8.36	11.00	-2.00
12	-3.28	24.34	265.92	12.96	8.39	12.00	0.44
Averages	-3.14	24.28	265.87	12.59	8.40	6.00	-6.59

Total Forces (including tare forces) :

Lift	= 265.87 lbs,	CL =	0.308
Drag	= 12.59 lbs,	CD =	0.0146
Moment	= 8.40 ft-lbs,	CM =	0.019

Tunnel Pressure & Velocity :

Pt	= -3.14 psiG	=	11.21 psiA
Pv	= 24.28 Dpsi,	Vt =	59.65 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.57	-0.024
1	0.030	-6.30	0.264
2	0.060	-7.50	0.311
3	0.110	-8.50	0.350
4	0.160	-9.09	0.382
5	0.260	-9.65	0.401
6	0.330	-9.66	0.404
7	0.450	-9.79	0.409
8	0.560	-9.61	0.400
9	0.680	-8.52	0.356
10	0.810	-6.09	0.256
11	0.900	-2.00	0.084
12	0.950	0.44	-0.018

*
Note that Speed manometer entry is incorrect.
#
EOR

Run number : 249
* tare run for run 156
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.851 ftHgA = 10.91 psiA
Speed manometer = 4.516 ftHgW = 60.12 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7753	3.9778	-0.0713	-0.1144	0.0080	0.1087	0.5853
	0.0155	0.0218	0.0136	0.1070	0.0228	0.0023	0.0185
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.40	24.56	-4.19	3.35	-0.02	0.00	3.75
Averages	-3.40	24.56	-4.19	3.35	-0.02	0.00	3.75

Tare Forces :

Lift = -4.19 lbs, CL = -0.005
Drag = 3.35 lbs, CD = 0.0038
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

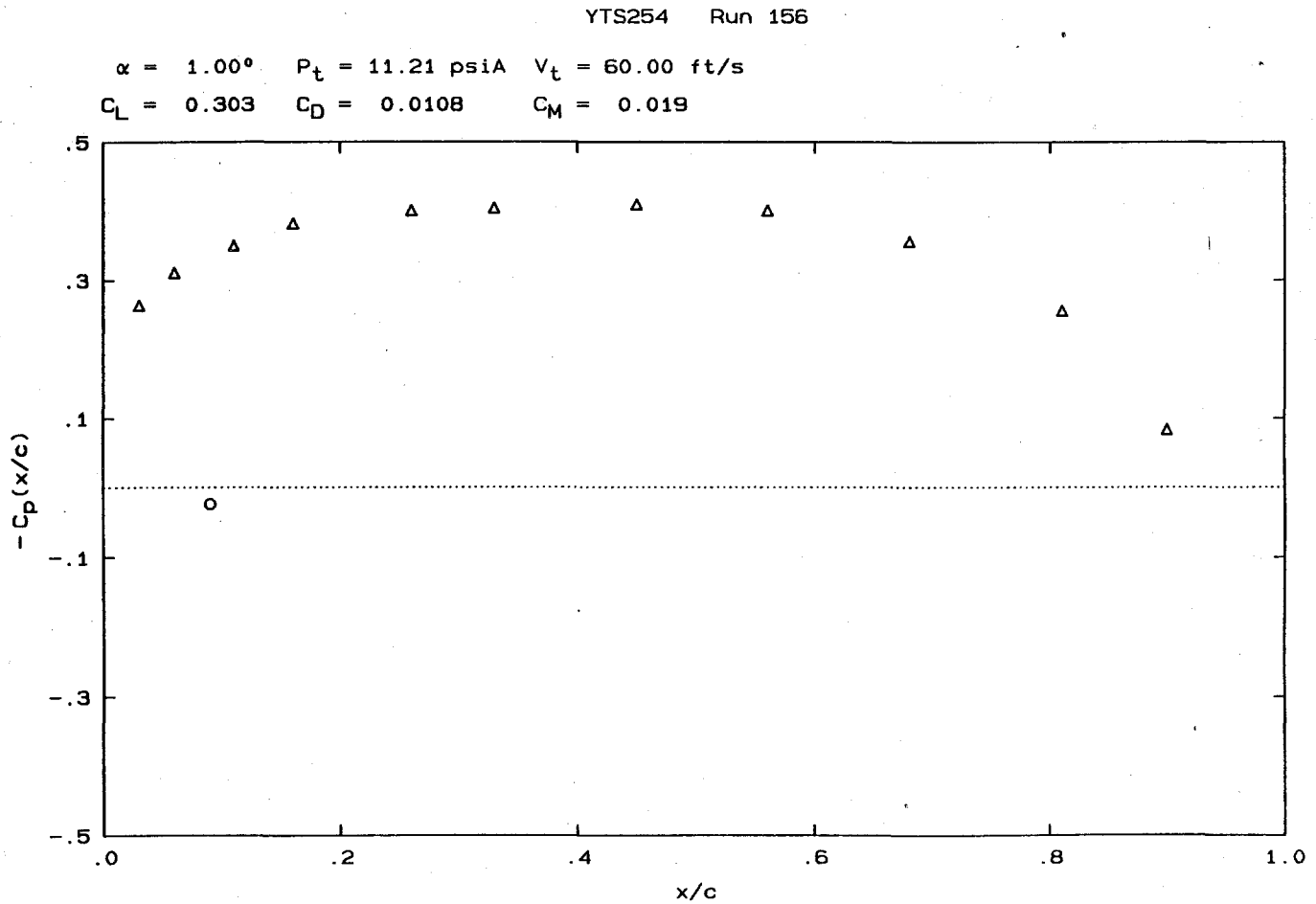
Pt = -3.40 psiG = 10.99 psiA
Pv = 24.56 Dpsi, Vt = 60.00 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 261.69 lbs, CL = 0.303
Drag = 9.24 lbs, CD = 0.0108
Moment = 8.38 ft-lbs, CM = 0.019

EOF YTS254.D03


YTS254 Run 156
α = 1.00° Pt = 11.21 psiA Vt = 60.00 ft/s
CL = 0.303 CD = 0.0108 CM = 0.019
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS255.D03      3-FEB-88
YTS255.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS255.dat     22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* mid chord cavitation
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.436 ft HgA,  = 14.36 psiA
Water temperature :   24.60  C
Water air content :    0.00  ml/lt



YTS313.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,  = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS255.D03 - Continued

Run number : 157
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.812 ftHgA = 10.68 psiA
Speed manometer = 4.448 ftHgW = 59.66 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7416	3.8829	-2.2771	-0.5055	-0.7681	-0.0113	0.0462
	0.0118	0.0153	0.0260	0.1204	0.0270	0.0022	0.0053
1	-0.7748	3.9089	-2.2943	-0.5183	-0.7772	0.0837	-1.3162
	0.0044	0.0159	0.0262	0.1278	0.0485	0.0021	0.0057
2	-0.7952	3.9325	-2.3072	-0.5342	-0.7727	0.1823	-1.5661
	0.0086	0.0149	0.0276	0.1158	0.0395	0.0018	0.0040
3	-0.8143	3.9429	-2.3168	-0.5415	-0.7801	0.2820	-1.7386
	0.0052	0.0134	0.0230	0.1326	0.0409	0.0025	0.0074
4	-0.7639	3.9004	-2.2852	-0.5476	-0.7662	0.3814	-1.8553
	0.0121	0.0211	0.0278	0.1357	0.0330	0.0024	0.0152
5	-0.8460	3.9708	-2.3353	-0.5338	-0.7835	0.4805	-1.9879
	0.0068	0.0115	0.0271	0.1103	0.0696	0.0018	0.0118
6	-0.8162	3.9323	-2.3131	-0.5443	-0.7838	0.5806	-2.0046
	0.0100	0.0158	0.0212	0.1167	0.0205	0.0027	0.0135
7	-0.7869	3.9043	-2.2946	-0.5428	-0.7718	0.6807	-2.0179
	0.0087	0.0154	0.0263	0.1285	0.0268	0.0019	0.0110
8	-0.8087	3.9310	-2.3025	-0.5358	-0.7726	0.7805	-1.9752
	0.0061	0.0115	0.0369	0.1179	0.0443	0.0014	0.0104
9	-0.8412	3.9442	-2.3265	-0.5626	-0.7842	0.8802	-1.7792
	0.0102	0.0152	0.0304	0.1050	0.0565	0.0015	0.0173
10	-0.8027	3.9241	-2.3027	-0.5645	-0.7725	0.9804	-1.3031
	0.0082	0.0141	0.0248	0.1069	0.0372	0.0009	0.0094
11	-0.8514	3.9631	-2.3326	-0.5373	-0.7778	1.0809	-0.4694
	0.0108	0.0155	0.0262	0.1096	0.0836	0.0047	0.0047
12	-0.8130	3.9344	-2.3113	-0.5361	-0.7750	1.1802	0.0250
	0.0078	0.0127	0.0234	0.1240	0.0228	0.0040	0.0037

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.44	24.04	262.81	11.69	8.39	0.00	0.55
1	-3.60	24.21	264.87	11.99	8.49	1.00	-6.26
2	-3.70	24.35	266.42	12.37	8.44	2.00	-7.51
3	-3.79	24.42	267.57	12.54	8.52	3.00	-8.38
4	-3.55	24.15	263.78	12.68	8.36	4.00	-8.96
5	-3.95	24.59	269.79	12.36	8.56	5.00	-9.62
6	-3.80	24.35	267.13	12.60	8.56	6.00	-9.71
7	-3.66	24.18	264.91	12.56	8.43	7.00	-9.77
8	-3.77	24.34	265.85	12.40	8.44	8.00	-9.56
9	-3.93	24.42	268.73	13.03	8.56	9.00	-8.58
10	-3.74	24.30	265.88	13.07	8.43	10.00	-6.20
11	-3.98	24.54	269.47	12.44	8.49	11.00	-2.03
12	-3.79	24.36	266.91	12.41	8.46	12.00	0.44
Averages	-3.75	24.33	266.55	12.48	8.48	6.00	-6.58

Total Forces (including tare forces) :

Lift	= 266.55 lbs,	CL =	0.308
Drag	= 12.48 lbs,	CD =	0.0144
Moment	= 8.48 ft-lbs,	CM =	0.020

Tunnel Pressure & Velocity :

Pt	= -3.75 psiG	= 10.61 psiA	
Pv	= 24.33 Dpsi,	Vt = 59.71 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.55	-0.023
1	0.030	-6.26	0.262
2	0.060	-7.51	0.313
3	0.110	-8.38	0.348
4	0.160	-8.96	0.376
5	0.260	-9.62	0.396
6	0.330	-9.71	0.404
7	0.450	-9.77	0.410
8	0.560	-9.56	0.398
9	0.680	-8.58	0.356
10	0.810	-6.20	0.258
11	0.900	-2.03	0.084
12	0.950	0.44	-0.018

*
EOR

YTS255.D03 - Continued

Run number : 250
* tare run for run 157
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.789 ftHgA = 10.54 psiA
Speed manometer = 4.494 ftHgW = 59.97 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8612	3.9783	-0.0700	-0.0938	0.0043	0.1086	0.6719
	0.0071	0.0174	0.0172	0.1122	0.0193	0.0023	0.0084
1	-0.8481	3.9487	-0.0718	-0.1229	0.0068	0.1086	0.6506
	0.0155	0.0209	0.0151	0.1228	0.0232	0.0024	0.0170

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.82	24.56	-4.34	2.87	0.02	0.00	4.18
1	-3.76	24.38	-4.12	3.55	-0.01	1.00	4.08
Averages	-3.79	24.47	-4.23	3.21	0.00	0.50	4.13

Tare Forces :

Lift = -4.23 lbs, CL = -0.005
Drag = 3.21 lbs, CD = 0.0037
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -3.79 psiG = 10.60 psiA
Pv = 24.47 Dpsi, Vt = 59.89 ft/s

*
EOR

Model Forces (excluding tare forces) :

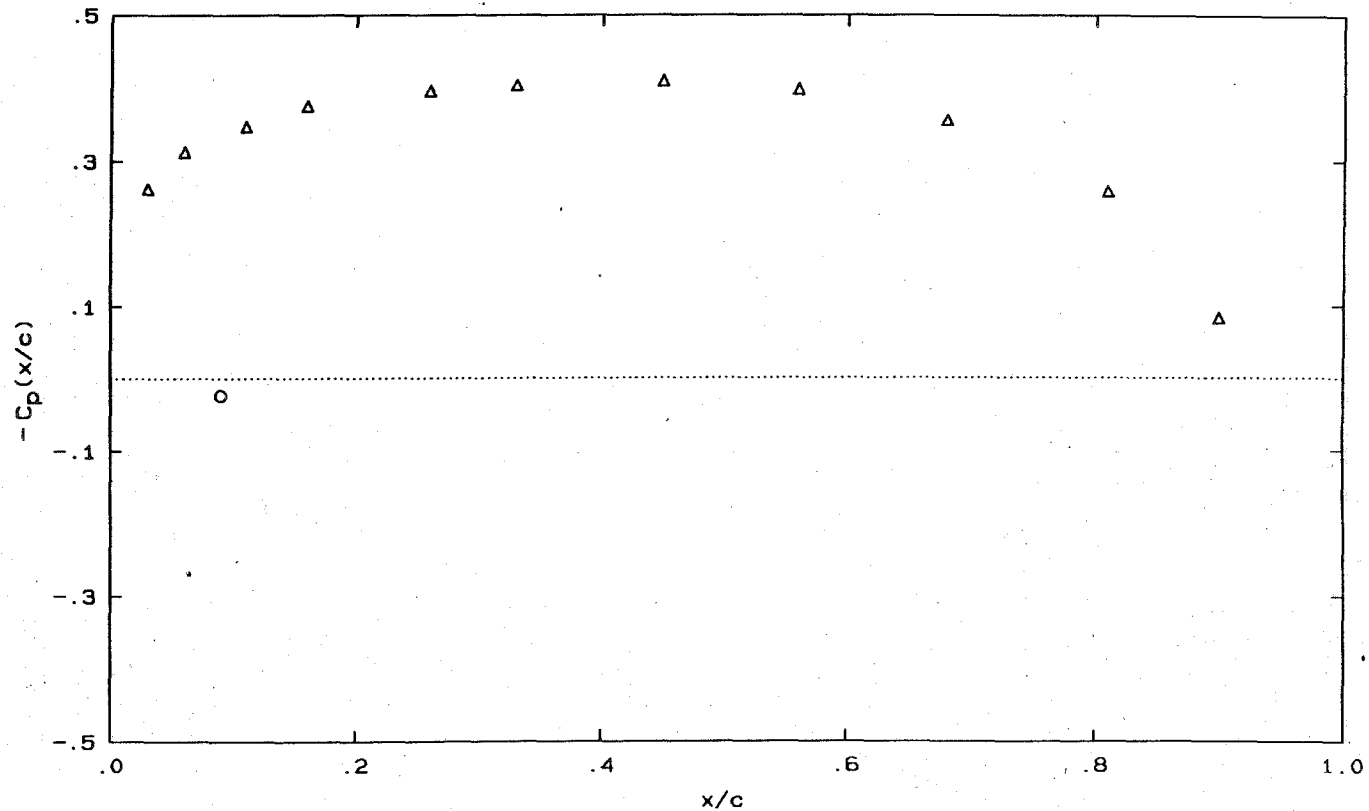
Lift = 262.32 lbs, CL = 0.303
Drag = 9.26 lbs, CD = 0.0107
Moment = 8.48 ft-lbs, CM = 0.020

EOF YTS255.D03

YTS255 Run 157

α = 1.00° P_t = 10.61 psiA V_t = 59.89 ft/s

C_L = 0.303 C_D = 0.0107 C_M = 0.020



```
YTS257.D03      3-FEB-88
YTS257.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS257.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
*  .9 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :  24.60  C
Water air content :   0.00  ml/lt




YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS257.D03 - Continued

Run number : 159
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.656 ftHgA = 9.76 psiA
Speed manometer = 4.486 ftHgW = 59.92 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.9926	3.9397	-2.4186	-0.6042	-0.3442	-0.0894	0.0794
	0.0055	0.0127	0.1273	0.2011	3.7400	0.2492	0.0054
1	-1.0094	3.9435	-2.4071	-0.6210	-0.7080	0.0866	-1.2981
	0.0069	0.0170	0.1052	0.1743	2.4342	0.0043	0.0072
2	-1.0032	3.9494	-2.4027	-0.6496	-0.7451	0.1899	-1.5720
	0.0072	0.0132	0.1205	0.2184	1.9096	0.0121	0.0061
3	-1.0314	3.9882	-2.4050	-0.6803	-0.2703	0.2709	-1.7182
	0.0056	0.0214	0.1574	0.2419	3.7028	0.2589	0.0011
4	-0.9630	3.9253	-2.3915	-0.5861	-0.6829	0.3817	-1.8203
	0.0069	0.0167	0.0481	0.1596	0.4036	0.0024	0.0073
5	-1.0244	3.9855	-2.4149	-0.6653	-0.5245	0.4813	-1.8716
	0.0070	0.0152	0.1171	0.2100	0.6774	0.0026	0.0030
6	-0.9694	3.9293	-2.3717	-0.5927	-0.6976	0.5878	-1.9128
	0.0080	0.0142	0.0563	0.1511	1.2109	0.0187	0.0094
7	-0.9943	3.9325	-2.4034	-0.6029	-0.5857	0.6908	-1.8861
	0.0097	0.0206	0.0830	0.1982	1.4043	0.0162	0.0083
8	-1.0045	3.9444	-2.4237	-0.6243	-0.5500	0.8154	-1.8925
	0.0117	0.0193	0.1019	0.1939	2.3694	0.0496	0.0114
9	-0.9965	3.9355	-2.3932	-0.5875	-0.6521	0.8818	-1.8947
	0.0099	0.0179	0.0735	0.2260	0.6369	0.0037	0.0130
10	-1.0310	3.9556	-2.4082	-0.6507	-0.5295	0.9822	-1.7468
	0.0070	0.0156	0.1343	0.2502	0.6777	0.0033	0.0125
11	-1.0413	3.9740	-2.3839	-0.6773	-0.4322	1.0926	-1.0153
	0.0066	0.0214	0.1225	0.2348	1.1957	0.0241	0.0579
12	-1.0074	3.9229	-2.3904	-0.6251	-0.3145	1.2319	0.0115
	0.0051	0.0150	0.1074	0.2249	3.1032	0.0653	0.0152

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.67	24.40	279.78	13.92	3.63	0.00	0.71
1	-4.75	24.42	278.41	14.37	7.70	1.00	-6.17
2	-4.72	24.46	277.88	15.04	8.12	2.00	-7.54
3	-4.86	24.70	278.12	15.70	2.80	3.00	-8.27
4	-4.52	24.31	276.54	13.55	7.43	4.00	-8.78
5	-4.83	24.68	279.33	15.38	5.65	5.00	-9.04
6	-4.56	24.33	274.16	13.71	7.59	6.00	-9.25
7	-4.68	24.35	277.96	13.92	6.33	7.00	-9.11
8	-4.73	24.43	280.40	14.42	5.93	8.00	-9.15
9	-4.69	24.37	276.74	13.58	7.08	9.00	-9.16
10	-4.86	24.50	278.53	15.04	5.70	10.00	-8.42
11	-4.91	24.61	275.60	15.66	4.61	11.00	-4.76
12	-4.74	24.29	276.39	14.40	3.30	12.00	0.37
Averages	-4.73	24.45	277.77	14.52	5.84	6.00	-6.81

Total Forces (including tare forces) :

Lift	= 277.77 lbs,	CL =	0.320
Drag	= 14.52 lbs,	CD =	0.0167
Moment	= 5.84 ft-lbs,	CM =	0.013

Tunnel Pressure & Velocity :

Pt	= -4.73 psiG	=	9.63 psiA
Pv	= 24.45 Dpsi,	Vt =	59.86 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.71	-0.030
1	0.030	-6.17	0.256
2	0.060	-7.54	0.312
3	0.110	-8.27	0.339
4	0.160	-8.78	0.366
5	0.260	-9.04	0.371
6	0.330	-9.25	0.385
7	0.450	-9.11	0.379
8	0.560	-9.15	0.379
9	0.680	-9.16	0.381
10	0.810	-8.42	0.348
11	0.900	-4.76	0.196
12	0.950	0.37	-0.016

*
EOR

Run number : 253
* tare run for run 159
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.600 ftHgA = 9.43 psiA
Speed manometer = 4.472 ftHgW = 59.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1116	3.9657	-0.0684	-0.1444	0.0054	0.1087	0.9106
	0.0102	0.0183	0.0212	0.1013	0.0305	0.0023	0.0116
1	-1.0993	3.9670	-0.0676	-0.1470	0.0058	0.1087	0.9026
	0.0055	0.0143	0.0211	0.1126	0.0237	0.0024	0.0033

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.05	24.49	-4.54	4.05	0.00	0.00	5.38
1	-4.99	24.49	-4.63	4.12	0.00	1.00	5.34
Averages	-5.02	24.49	-4.58	4.09	0.00	0.50	5.36

Tare Forces :

Lift = -4.58 lbs, CL = -0.005
Drag = 4.09 lbs, CD = 0.0047
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

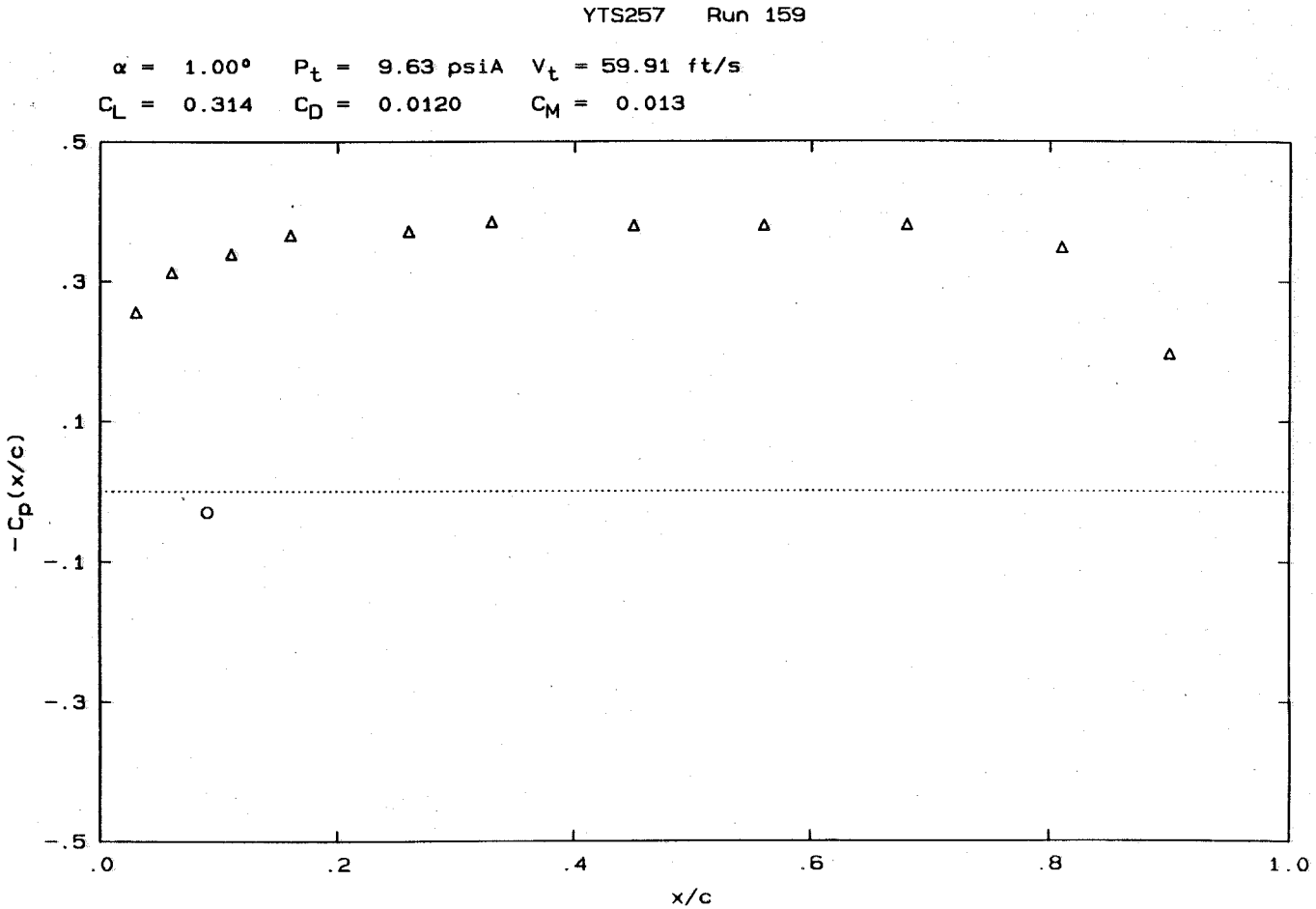
Pt = -5.02 psiG = 9.37 psiA
Pv = 24.49 Dpsi, Vt = 59.91 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 273.18 lbs, CL = 0.314
Drag = 10.43 lbs, CD = 0.0120
Moment = 5.84 ft-lbs, CM = 0.013

EOF YTS257.D03


YTS257 Run 159
α = 1.00° Pt = 9.63 psiA Vt = 59.91 ft/s
CL = 0.314 CD = 0.0120 CM = 0.013
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS258.D03      3-FEB-88
YTS258.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS258.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* .85 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :  24.60  C
Water air content :   0.00  ml/lt




YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS258.D03 - Continued

Run number : 160
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.536 ftHgA = 9.06 psiA
Speed manometer = 4.488 ftHgW = 59.93 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1375	3.9724	-2.2488	-0.7584	-0.2467	-0.0116	-0.0100
	0.0062	0.0202	0.1604	0.3052	0.8257	0.0027	0.0084
1	-1.1137	3.9431	-2.2914	-0.7378	-0.3771	0.0871	-1.1757
	0.0091	0.0159	0.1857	0.3758	2.8598	0.0050	0.0081
2	-1.1390	3.9659	-2.2365	-0.7559	-0.3072	0.1898	-1.4209
	0.0097	0.0184	0.1961	0.3535	2.3033	0.0135	0.0099
3	-1.0986	3.9080	-2.3332	-0.7041	-0.5710	0.3079	-1.6623
	0.0130	0.0212	0.1469	0.2502	3.3342	0.0459	0.0163
4	-1.1329	3.9449	-2.2393	-0.8203	-0.3288	0.3897	-1.6984
	0.0133	0.0225	0.1762	0.3298	1.7847	0.0169	0.0172
5	-1.1700	3.9818	-2.1660	-0.8180	-0.2480	0.4815	-1.7232
	0.0044	0.0180	0.1622	0.3081	0.6840	0.0024	0.0058
6	-1.1703	3.9919	-2.1577	-0.7781	-0.1987	0.5817	-1.7110
	0.0060	0.0195	0.1947	0.3543	0.5453	0.0026	0.0103
7	-1.1648	3.9946	-2.1839	-0.8586	-0.2516	0.6818	-1.7170
	0.0071	0.0193	0.1842	0.3686	0.5938	0.0021	0.0083
8	-1.1677	3.9882	-2.1724	-0.8457	-0.2507	0.7818	-1.7262
	0.0040	0.0171	0.1391	0.2937	0.6595	0.0019	0.0025
9	-1.1558	3.9917	-2.1840	-0.8105	-0.2803	0.8833	-1.7355
	0.0069	0.0196	0.1585	0.2891	1.0667	0.0051	0.0104
10	-1.1481	3.9815	-2.1845	-0.7855	-0.2666	0.9819	-1.6168
	0.0110	0.0202	0.1495	0.3239	0.6268	0.0022	0.0154
11	-1.1661	3.9934	-2.1736	-0.8117	-0.2060	1.0823	-1.2622
	0.0044	0.0224	0.1566	0.3332	0.5924	0.0048	0.0074
12	-1.1702	3.9889	-2.1405	-0.8215	-0.1753	1.1848	-0.7893
	0.0129	0.0176	0.1859	0.3931	1.0372	0.0100	0.0350

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.38	24.60	259.35	17.55	2.53	0.00	0.27
1	-5.26	24.42	264.48	17.08	3.99	1.00	-5.56
2	-5.39	24.56	257.88	17.51	3.21	2.00	-6.79
3	-5.19	24.20	269.52	16.30	6.17	3.00	-7.99
4	-5.36	24.43	258.21	19.01	3.45	4.00	-8.18
5	-5.54	24.66	249.40	18.97	2.55	5.00	-8.30
6	-5.54	24.72	248.40	18.03	2.00	6.00	-8.24
7	-5.51	24.74	251.54	19.92	2.59	7.00	-8.27
8	-5.53	24.70	250.16	19.62	2.58	8.00	-8.31
9	-5.47	24.72	251.56	18.80	2.91	9.00	-8.36
10	-5.43	24.66	251.62	18.21	2.76	10.00	-7.77
11	-5.52	24.73	250.31	18.82	2.08	11.00	-5.99
12	-5.54	24.70	246.33	19.05	1.74	12.00	-3.63
Averages	-5.44	24.60	254.65	18.37	2.97	6.00	-6.70

Total Forces (including tare forces) :

Lift	= 254.65 lbs,	CL =	0.291
Drag	= 18.37 lbs,	CD =	0.0210
Moment	= 2.97 ft-lbs,	CM =	0.007

Tunnel Pressure & Velocity :

Pt	= -5.44 psiG	=	8.92 psiA
Pv	= 24.60 Dpsi,	Vt =	60.05 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.27	-0.011
1	0.030	-5.56	0.231
2	0.060	-6.79	0.280
3	0.110	-7.99	0.335
4	0.160	-8.18	0.339
5	0.260	-8.30	0.341
6	0.330	-8.24	0.338
7	0.450	-8.27	0.339
8	0.560	-8.31	0.341
9	0.680	-8.36	0.343
10	0.810	-7.77	0.319
11	0.900	-5.99	0.246
12	0.950	-3.63	0.149

*
EOR

YTS258.D03 - Continued

Run number : 254
* tare run for run 160
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.522 ftHgA = 8.97 psiA
Speed manometer = 4.480 ftHgW = 59.88 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2288	3.9936	-0.0728	-0.1714	0.0056	0.1087	1.0151
	0.0097	0.0213	0.0262	0.1815	0.0330	0.0023	0.0110
1	-1.1767	3.9384	-0.0726	-0.1257	0.0085	0.1087	0.9684
	0.0062	0.0172	0.0214	0.1387	0.0312	0.0023	0.0052

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.63	24.66	-4.01	4.69	0.00	0.00	5.90
1	-5.37	24.32	-4.02	3.61	-0.03	1.00	5.67
Averages	-5.50	24.49	-4.02	4.15	-0.02	0.50	5.78

Tare Forces :

Lift = -4.02 lbs, CL = -0.005
Drag = 4.15 lbs, CD = 0.0048
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

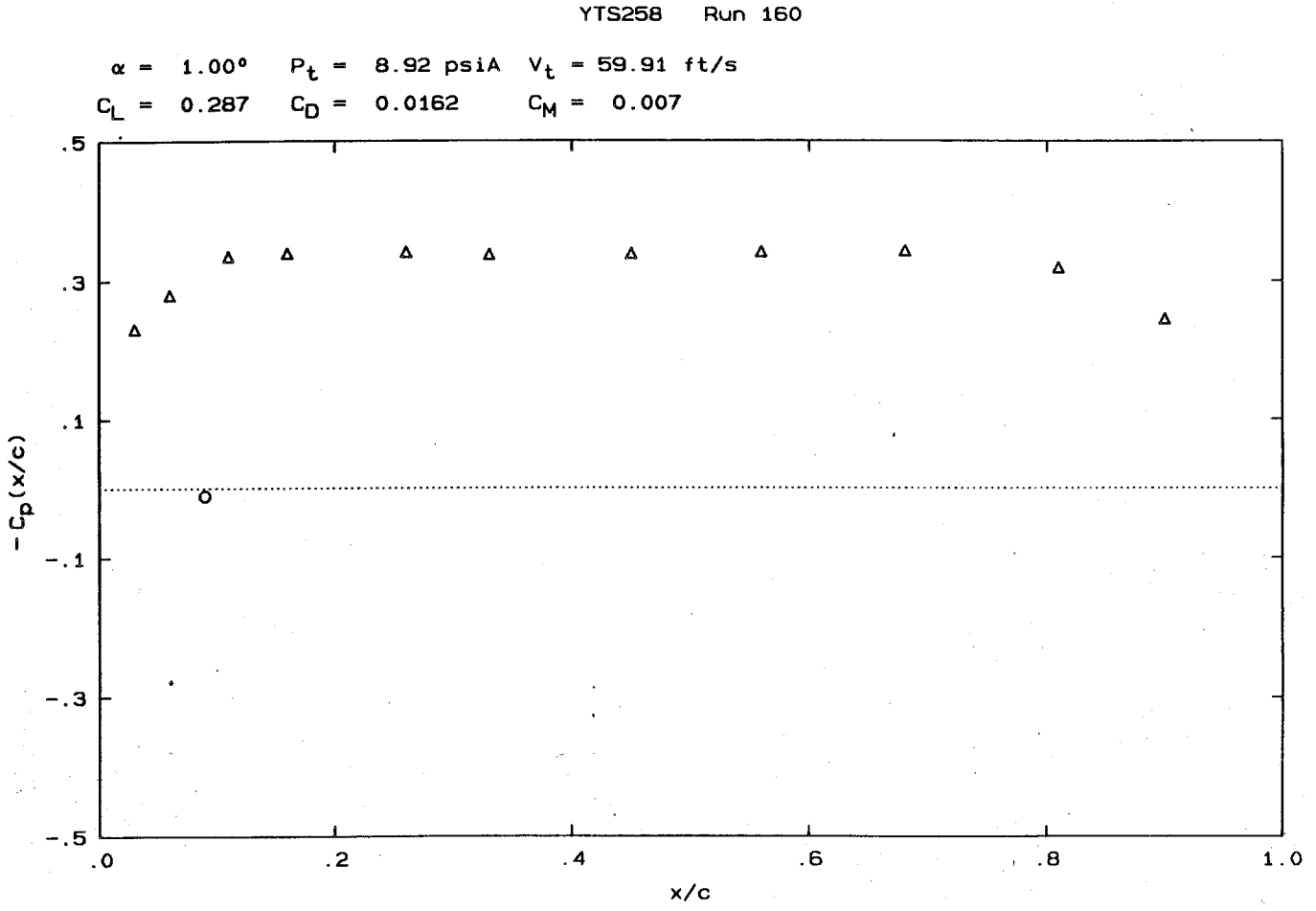
Pt = -5.50 psiG = 8.89 psiA
Pv = 24.49 Dpsi, Vt = 59.91 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 250.63 lbs, CL = 0.287
Drag = 14.23 lbs, CD = 0.0162
Moment = 2.96 ft-lbs, CM = 0.007

EOF YTS258.D03


YTS258 Run 160
α = 1.00° Pt = 8.92 psiA Vt = 59.91 ft/s
CL = 0.287 CD = 0.0162 CM = 0.007
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS259.D03      3-FEB-88
YTS259.D01      3-DEC-87
Using YTS202_263.COR correction file.

YTS259.dat    22-JUN-87
* Data processed using YTS246.off offset file and YTS026.clb calibration file
* .8 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.436 ft HgA,  = 14.36 psiA
Water temperature :  24.60  C
Water air content :   0.00  ml/lt




YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS259.D03 - Continued

Run number : 161
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.479 ftHgA = 8.72 psiA
Speed manometer = 4.473 ftHgW = 59.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2034	3.9928	-2.0810	-0.8093	-0.1478	-0.0113	-0.0679
	0.0046	0.0156	0.1517	0.3744	0.6672	0.0021	0.0045
1	-1.1673	3.9683	-2.1778	-0.8397	-0.2894	0.0841	-1.0972
	0.0037	0.0172	0.1686	0.3940	1.0270	0.0020	0.0054
2	-1.2252	4.0038	-2.0349	-0.8118	-0.2105	0.1828	-1.3206
	0.0073	0.0219	0.2154	0.3274	0.5267	0.0018	0.0056
3	-1.1919	3.9665	-2.0945	-0.7831	-0.2385	0.2829	-1.5569
	0.0089	0.0153	0.1802	0.3151	0.7486	0.0026	0.0098
4	-1.1887	3.9519	-2.1192	-0.7835	-0.2075	0.3824	-1.6503
	0.0070	0.0168	0.1845	0.3706	0.6770	0.0025	0.0052
5	-1.2061	3.9649	-2.0818	-0.8182	-0.1172	0.4818	-1.6754
	0.0090	0.0226	0.1611	0.3233	0.7176	0.0024	0.0136
6	-1.2011	3.9520	-2.0966	-0.7667	-0.2470	0.5817	-1.6756
	0.0054	0.0211	0.1920	0.3656	0.4888	0.0026	0.0059
7	-1.1896	3.9476	-2.1384	-0.7924	-0.2306	0.6820	-1.6913
	0.0068	0.0156	0.1718	0.3088	0.5845	0.0022	0.0083
8	-1.2103	3.9580	-2.0575	-0.8182	-0.1421	0.7821	-1.6788
	0.0073	0.0250	0.1884	0.3641	0.8025	0.0019	0.0091
9	-1.1972	3.9445	-2.1097	-0.7885	-0.1737	0.8819	-1.6724
	0.0069	0.0200	0.1507	0.3430	0.6599	0.0023	0.0086
10	-1.2066	3.9384	-2.1068	-0.7907	-0.1646	0.9829	-1.5277
	0.0042	0.0131	0.1505	0.3092	0.9410	0.0038	0.0071
11	-1.2329	3.9684	-2.0282	-0.8260	-0.1653	1.0826	-1.2592
	0.0071	0.0150	0.1658	0.4245	0.5103	0.0052	0.0063
12	-1.2105	3.9436	-2.0945	-0.7991	-0.2275	1.1851	-0.8149
	0.0110	0.0191	0.1514	0.3391	0.9207	0.0127	0.0186

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.70	24.73	239.18	18.77	1.43	0.00	-0.02
1	-5.53	24.57	250.82	19.48	3.01	1.00	-5.17
2	-5.81	24.79	233.64	18.85	2.14	2.00	-6.29
3	-5.65	24.56	240.81	18.16	2.45	3.00	-7.47
4	-5.63	24.47	243.78	18.16	2.10	4.00	-7.93
5	-5.72	24.55	239.28	18.97	1.09	5.00	-8.06
6	-5.69	24.47	241.07	17.78	2.54	6.00	-8.06
7	-5.64	24.45	246.09	18.37	2.36	7.00	-8.14
8	-5.74	24.51	236.36	18.98	1.37	8.00	-8.08
9	-5.67	24.43	242.64	18.27	1.72	9.00	-8.05
10	-5.72	24.39	242.29	18.32	1.62	10.00	-7.32
11	-5.85	24.57	232.84	19.17	1.63	11.00	-5.98
12	-5.74	24.42	240.81	18.53	2.32	12.00	-3.76
Averages	-5.70	24.53	240.82	18.61	1.98	6.00	-6.49

YTS259.D03 Run 161 - Continued

Total Forces (including tare forces) :

Lift	= 240.82 lbs,	CL =	0.276
Drag	= 18.61 lbs,	CD =	0.0213
Moment	= 1.98 ft-lbs,	CM =	0.005

Tunnel Pressure & Velocity :

Pt	= -5.70 psiG	=	8.66 psiA
Pv	= 24.53 Dpsi,	Vt =	59.96 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-0.02	0.001
1	0.030	-5.17	0.213
2	0.060	-6.29	0.257
3	0.110	-7.47	0.308
4	0.160	-7.93	0.328
5	0.260	-8.06	0.333
6	0.330	-8.06	0.334
7	0.450	-8.14	0.337
8	0.560	-8.08	0.334
9	0.680	-8.05	0.334
10	0.810	-7.32	0.304
11	0.900	-5.98	0.247
12	0.950	-3.76	0.156

*
EOR

YTS259.D03 - Continued

Run number : 255
* tare run for run 161
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.437 ftHgA = 8.47 psiA
Speed manometer = 4.519 ftHgW = 60.14 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2709	3.9766	-0.0762	-0.1046	0.0055	0.1086	1.0607
	0.0074	0.0157	0.0281	0.1974	0.0357	0.0023	0.0052
1	-1.2537	3.9490	-0.0700	-0.1167	0.0062	0.1086	1.0429
	0.0053	0.0150	0.0198	0.1592	0.0338	0.0023	0.0071

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.83	24.55	-3.60	3.12	0.00	0.00	6.13
1	-5.75	24.38	-4.34	3.40	-0.01	1.00	6.04
Averages	-5.79	24.47	-3.97	3.26	0.00	0.50	6.08

Tare Forces :

Lift = -3.97 lbs, CL = -0.005
Drag = 3.26 lbs, CD = 0.0038
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

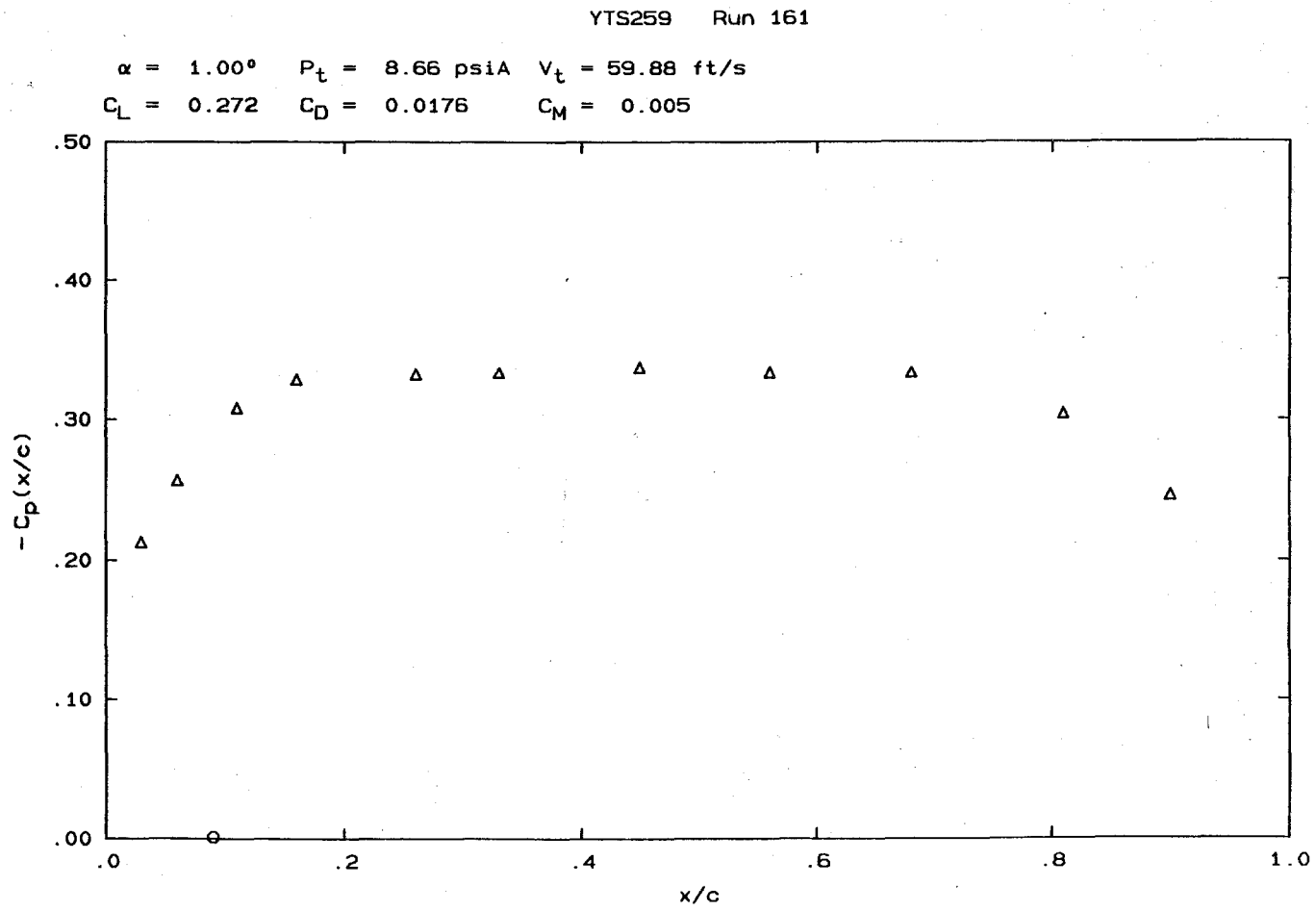
Pt = -5.79 psiG = 8.60 psiA
Pv = 24.47 Dpsi, Vt = 59.88 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 236.85 lbs, CL = 0.272
Drag = 15.34 lbs, CD = 0.0176
Moment = 1.98 ft-lbs, CM = 0.005

EOF YTS259.D03


YTS259 Run 161
α = 1.00° Pt = 8.66 psiA Vt = 59.88 ft/s
CL = 0.272 CD = 0.0176 CM = 0.005
.50
.40
.30
.20
.10
.00
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

APPENDIX B.2 Smooth leading edge test data

0.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS308	Fully wetted	210	49.86	17.71	.191	.0089	-.010
YTS307	Fully wetted	209	49.79	11.78	.197	.0088	-.009
YTS302	cavitation inception	204	49.84	6.81	.213	.0067	-.008
YTS303	S = 0.95 (tap induced cavity)	205	49.80	6.35	.217	.0070	-.009
YTS304	S = 0.9	206	49.83	6.05	.216	.0082	-.011
YTS305	S = 0.85	207	49.85	5.72	.199	.0101	-.015
YTS306	S = 0.8 (tap 5 cavitation)	208	49.75	5.48	.184	.0114	-.016

1.0 degree Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS285	Cavitation inception	187	29.68	3.91	.516	.0087	.067
YTS286	S = 0.9 (tap induced cavity)	188	29.81	3.15	.507	.0165	.046
YTS276		178	34.99	3.46	.329	.0101	.016
YTS277		179	34.90	3.31	.315	.0110	.013
YTS278		180	34.97	3.03	.269	.0154	.008
YTS284	Fully wetted	186	59.27	24.93	.503	.0114	.066
YTS281	Cavitation inception	183	59.14	17.85	.510	.0111	.068
YTS282	S = 0.95	184	59.27	15.96	.513	.0117	.069
YTS273	Fully wetted	175	59.68	18.94	.328	.0093	.021
YTS271	cavitation inception	176	59.81	10.62	.331	.0079	.022
YTS275		177	59.93	10.14	.340	.0085	.020

2.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS267	cavitation inception	169	29.98	3.24	.406	.0067	.040
YTS272	Fully wetted	174	59.50	20.62	.411	.0082	.040
YTS243	cavitation inception	145	59.14	15.91	.442	.0113	.052
YTS244	5% to 20% cavity	146	58.94	14.23	.445	.0120	.053
YTS245	unstable 15% to 80% cavity	147	59.07	13.40	.509	.0126	.051
YTS269	occasional cavity at tap #1	171	59.81	12.06	.412	.0088	.042
YTS270	S = 0.95	172	59.86	11.45	.422	.0081	.041
YTS271	S = 0.9	173	59.67	10.91	.443	.0136	.023

4.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS296	Fully wetted	198	39.54	17.70	.597	.0132	.090
YTS291	10% cavity	193	39.55	9.62	.607	.0129	.093
YTS292	25% cavity	194	39.61	9.02	.617	.0131	.095
YTS293	40% cavity	195	39.51	8.62	.649	.0137	.099
YTS294	60% cavity	196	39.64	8.34	.672	.0150	.097
YTS295	80% cavity	197	39.60	7.87	.691	.0210	.086

6.0 degrees Alpha

file	Comments	Run	Speed ft/s	Press psiA	CL	CD	CM
YTS298	Fully wetted	200	39.67	33.54	.784	.0207	.136
YTS297	Cavitation inception	199	39.62	26.11	.789	.0196	.139
YTS299	10% cavity	201	39.57	18.70	.803	.0205	.144
YTS300	25% cavity	202	39.52	15.59	.818	.0285	.151
YTS301	40% cavity	203	39.53	13.29	.850	.0327	.156

yts265.off 24-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.443 ft Hg (14.40 psiA)
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0999	0.0195	-0.0645	-0.0071	0.0033	0.0000	-0.0370
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

```
YTS267.D03      3-FEB-88
YTS267.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS267.dat    24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
* cav inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.443 ft HgA,  = 14.40 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt




YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS267.D03 - Continued

Run number : 169
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.550 ftHgA = 3.24 psiA
Speed manometer = 1.141 ftHgW = 30.22 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3819	1.0110	-0.8180	-0.1265	-0.3931	0.0003	0.0775
	0.0084	0.0055	0.0096	0.0149	0.0223	0.0022	0.0029
1	-2.3747	1.0114	-0.8192	-0.1255	-0.3977	0.1007	-0.5937
	0.0026	0.0055	0.0098	0.0135	0.0208	0.0032	0.0034
2	-2.3674	1.0091	-0.8221	-0.1229	-0.3958	0.2012	-0.6083
	0.0100	0.0056	0.0086	0.0162	0.0168	0.0030	0.0032
3	-2.3686	1.0072	-0.8107	-0.1269	-0.3872	0.3023	-0.5960
	0.0101	0.0057	0.0094	0.0131	0.0217	0.0031	0.0035
4	-2.3701	1.0051	-0.8097	-0.1226	-0.3910	0.4023	-0.6046
	0.0085	0.0056	0.0084	0.0129	0.0187	0.0031	0.0032
5	-2.3731	1.0076	-0.8159	-0.1236	-0.3922	0.5034	-0.6145
	0.0015	0.0059	0.0091	0.0180	0.0151	0.0029	0.0031
6	-2.3804	1.0108	-0.8135	-0.1275	-0.3887	0.6039	-0.6262
	0.0090	0.0055	0.0103	0.0172	0.0458	0.0030	0.0021
7	-2.3778	1.0100	-0.8165	-0.1217	-0.3937	0.7024	-0.6209
	0.0063	0.0057	0.0080	0.0129	0.0313	0.0025	0.0030
8	-2.3797	1.0099	-0.8164	-0.1245	-0.3963	0.8028	-0.5961
	0.0082	0.0057	0.0090	0.0152	0.0212	0.0030	0.0035
9	-2.3782	1.0114	-0.8189	-0.1254	-0.3932	0.9039	-0.5347
	0.0070	0.0055	0.0087	0.0163	0.0330	0.0038	0.0031
10	-2.3771	1.0076	-0.8127	-0.1223	-0.3925	1.0047	-0.3956
	0.0051	0.0056	0.0097	0.0164	0.0309	0.0050	0.0033
11	-2.3689	1.0042	-0.8137	-0.1234	-0.3896	1.1053	-0.1692
	0.0092	0.0053	0.0132	0.0160	0.0508	0.0047	0.0030
12	-2.3764	1.0077	-0.8177	-0.1258	-0.3932	1.2060	-0.0396
	0.0032	0.0057	0.0079	0.0152	0.0524	0.0023	0.0029

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.20	6.15	90.37	2.88	4.41	0.00	0.57
1	-11.16	6.15	90.51	2.86	4.47	1.00	-2.78
2	-11.12	6.14	90.86	2.79	4.44	2.00	-2.86
3	-11.13	6.12	89.49	2.89	4.35	3.00	-2.80
4	-11.14	6.11	89.37	2.79	4.39	4.00	-2.84
5	-11.15	6.13	90.12	2.81	4.40	5.00	-2.89
6	-11.19	6.15	89.83	2.90	4.37	6.00	-2.95
7	-11.18	6.14	90.19	2.77	4.42	7.00	-2.92
8	-11.18	6.14	90.18	2.83	4.45	8.00	-2.80
9	-11.18	6.15	90.48	2.85	4.42	9.00	-2.49
10	-11.17	6.13	89.73	2.78	4.41	10.00	-1.79
11	-11.13	6.11	89.85	2.81	4.38	11.00	-0.66
12	-11.17	6.13	90.33	2.86	4.42	12.00	-0.01
Averages	-11.16	6.13	90.13	2.83	4.41	6.00	-2.09

Total Forces (including tare forces) :

Lift	= 90.13 lbs,	CL =	0.413
Drag	= 2.83 lbs,	CD =	0.0130
Moment	= 4.41 ft-lbs,	CM =	0.040

Tunnel Pressure & Velocity :

Pt	= -11.16 psiG	=	3.24 psiA
Pv	= 6.13 Dpsi,	Vt =	29.98 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.57	-0.094
1	0.030	-2.78	0.459
2	0.060	-2.86	0.472
3	0.110	-2.80	0.462
4	0.160	-2.84	0.471
5	0.260	-2.89	0.478
6	0.330	-2.95	0.486
7	0.450	-2.92	0.482
8	0.560	-2.80	0.461
9	0.680	-2.49	0.410
10	0.810	-1.79	0.297
11	0.900	-0.66	0.110
12	0.950	-0.01	0.002

*
EOR

YTS267.D03 - Continued

Run number : 256
* tare run for run 169
*
Angle of attack : 2.00 degrees
Tunnel pressure = 0.521 ftHgA = 3.07 psiA
Speed manometer = 1.153 ftHgW = 30.37 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3903	1.0216	-0.0891	-0.0555	0.0027	0.1087	2.0901
	0.0058	0.0038	0.0054	0.0162	0.0030	0.0023	0.0083
1	-2.4048	1.0422	-0.0877	-0.0584	0.0031	0.1086	2.1056
	0.0079	0.0056	0.0060	0.0158	0.0043	0.0023	0.0081

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.32	6.23	-1.52	1.37	-0.01	0.00	11.28
1	-11.40	6.36	-1.69	1.45	-0.01	1.00	11.35
Averages	-11.36	6.30	-1.60	1.41	-0.01	0.50	11.31

Tare Forces :

Lift = -1.60 lbs, CL = -0.007
Drag = 1.41 lbs, CD = 0.0063
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

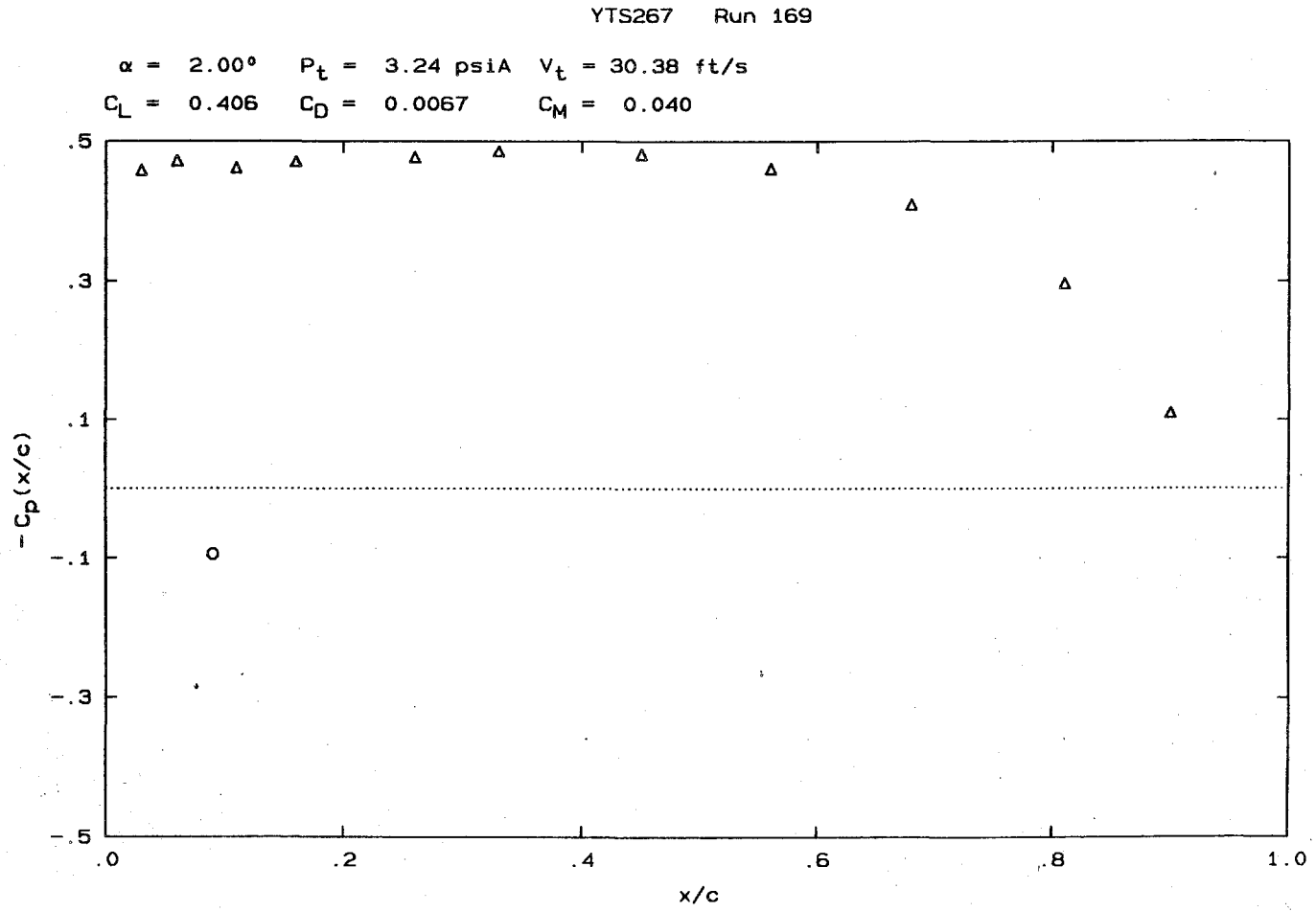
Pt = -11.36 psiG = 3.03 psiA
Pv = 6.30 Dpsi, Vt = 30.38 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 88.53 lbs, CL = 0.406
Drag = 1.42 lbs, CD = 0.0067
Moment = 4.40 ft-lbs, CM = 0.040

EOF YTS267.D03


YTS267 Run 169
α = 2.00° P_t = 3.24 psiA V_t = 30.38 ft/s
C_L = 0.406 C_D = 0.0067 C_M = 0.040
.5
.3
.1
-.1
-.3
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS269.D03 3-FEB-88
YTS269.D01 3-DEC-87
Using YTS265_278.COR correction file.

YTS269.dat 24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
* Cavitation inception (midchord bubble cavitation).
* Cavity occasionally induced at pressure tap #1
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.443 ft HgA, = 14.40 psiA
Water temperature : 24.50 C
Water air content : 0.00 ml/lt

YTS313.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS269.D03 - Continued

Run number : 171
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.038 ftHgA = 12.01 psiA
Speed manometer = 4.476 ftHgW = 59.86 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.5560	3.9279	-3.0587	-0.4580	-1.6157	0.0006	0.4410
	0.0050	0.0164	0.0233	0.1325	0.0370	0.0021	0.0091
1	-0.5764	3.9495	-3.0705	-0.4792	-1.6322	0.1013	-2.3718
	0.0103	0.0186	0.0257	0.1165	0.0485	0.0031	0.0110
2	-0.5442	3.9228	-3.0780	-0.4590	-1.6192	0.2024	-2.3588
	0.0183	0.0187	0.0339	0.0876	0.0387	0.0029	0.0183
3	-0.5667	3.9403	-3.0726	-0.4670	-1.6168	0.3045	-2.3582
	0.0077	0.0228	0.0312	0.1054	0.0353	0.0033	0.0115
4	-0.5640	3.9502	-3.0905	-0.4461	-1.6272	0.4065	-2.3747
	0.0142	0.0156	0.0236	0.1194	0.0318	0.0029	0.0160
5	-0.5681	3.9529	-3.0833	-0.4658	-1.6299	0.5090	-2.3063
	0.0055	0.0161	0.0248	0.0954	0.0297	0.0029	0.0103
6	-0.5708	3.9657	-3.1031	-0.4412	-1.6401	0.6119	-2.2992
	0.0114	0.0160	0.0298	0.1051	0.0270	0.0031	0.0132
7	-0.5906	3.9515	-3.0841	-0.4612	-1.6289	0.7123	-2.2373
	0.0102	0.0187	0.0232	0.0940	0.0317	0.0037	0.0126
8	-0.5927	3.9673	-3.0951	-0.4613	-1.6348	0.8156	-2.1626
	0.0097	0.0201	0.0293	0.0969	0.0526	0.0036	0.0181
9	-0.6136	3.9834	-3.0987	-0.4610	-1.6451	0.9190	-1.8967
	0.0155	0.0155	0.0277	0.0993	0.0375	0.0035	0.0120
10	-0.5811	3.9831	-3.0983	-0.4863	-1.6416	1.0218	-1.4138
	0.0088	0.0184	0.0233	0.0964	0.0458	0.0040	0.0085
11	-0.5518	3.9375	-3.0747	-0.4798	-1.6282	1.1254	-0.5296
	0.0055	0.0187	0.0317	0.0897	0.0385	0.0043	0.0054
12	-0.6175	3.9964	-3.1304	-0.4651	-1.6534	1.2292	0.0055
	0.0051	0.0188	0.0226	0.1048	0.0481	0.0056	0.0046

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.24	24.23	359.11	10.93	18.04	0.00	2.39
1	-2.34	24.37	360.52	11.43	18.23	1.00	-11.67
2	-2.18	24.20	361.43	10.95	18.08	2.00	-11.61
3	-2.29	24.31	360.77	11.14	18.05	3.00	-11.61
4	-2.28	24.37	362.93	10.65	18.17	4.00	-11.69
5	-2.30	24.39	362.06	11.11	18.20	5.00	-11.35
6	-2.31	24.47	364.44	10.54	18.32	6.00	-11.31
7	-2.41	24.38	362.15	11.01	18.19	7.00	-11.00
8	-2.42	24.48	363.47	11.01	18.26	8.00	-10.63
9	-2.52	24.58	363.90	11.01	18.37	9.00	-9.30
10	-2.36	24.57	363.85	11.60	18.33	10.00	-6.88
11	-2.22	24.29	361.03	11.44	18.18	11.00	-2.46
12	-2.54	24.66	367.71	11.10	18.46	12.00	0.21
Averages	-2.34	24.41	362.68	11.07	18.23	6.00	-8.22

Total Forces (including tare forces) :

Lift	= 362.68 lbs,	CL =	0.418
Drag	= 11.07 lbs,	CD =	0.0128
Moment	= 18.23 ft-lbs,	CM =	0.042

Tunnel Pressure & Velocity :

Pt	= -2.34 psiG	=	12.06 psiA
Pv	= 24.41 Dpsi,	Vt =	59.81 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.39	-0.100
1	0.030	-11.67	0.485
2	0.060	-11.61	0.486
3	0.110	-11.61	0.484
4	0.160	-11.69	0.486
5	0.260	-11.35	0.471
6	0.330	-11.31	0.468
7	0.450	-11.00	0.457
8	0.560	-10.63	0.440
9	0.680	-9.30	0.383
10	0.810	-6.88	0.284
11	0.900	-2.46	0.103
12	0.950	0.21	-0.009

*
EOR

YTS269.D03 - Continued

Run number : 258
* tare run for run 171
*
Angle of attack : 2.00 degrees
Tunnel pressure = 2.008 ftHgA = 11.83 psiA
Speed manometer = 4.456 ftHgW = 59.72 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.6354	3.9503	-0.0611	-0.1098	0.0057	0.1086	0.4877
	0.0134	0.0227	0.0161	0.1391	0.0153	0.0022	0.0168
1	-0.5764	3.9745	-0.0624	-0.1247	0.0054	0.1086	0.4218
	0.0060	0.0168	0.0126	0.0996	0.0235	0.0024	0.0082

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.71	24.39	-5.41	3.24	0.00	0.00	3.26
1	-2.43	24.54	-5.26	3.60	0.00	1.00	2.93
Averages	-2.57	24.47	-5.33	3.42	0.00	0.50	3.10

Tare Forces :

Lift = -5.33 lbs, CL = -0.006
Drag = 3.42 lbs, CD = 0.0039
Moment = 0.00 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

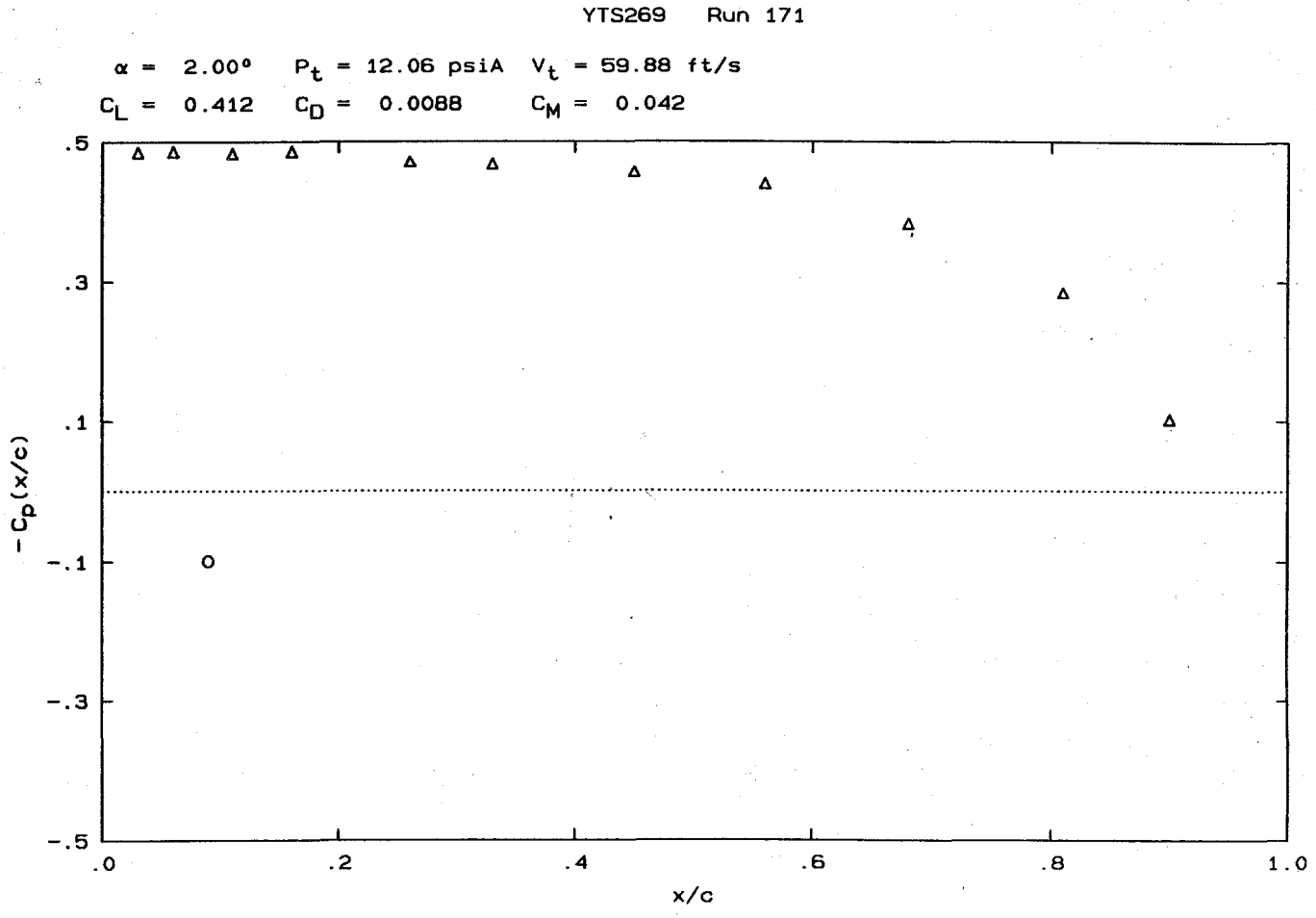
Pt = -2.57 psiG = 11.82 psiA
Pv = 24.47 Dpsi, Vt = 59.88 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 357.34 lbs, CL = 0.412
Drag = 7.65 lbs, CD = 0.0088
Moment = 18.23 ft-lbs, CM = 0.042

EOF YTS269.D03


YTS269 Run 171
α = 2.00° P_t = 12.06 psiA V_t = 59.88 ft/s
C_L = 0.412 C_D = 0.0088 C_M = 0.042
.5
.3
.1
-.1
-.3
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

```
YTS270.D03      3-FEB-88
YTS270.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS270.dat    24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
* 0.95 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.445 ft HgA,  = 14.41 psiA
Water temperature :  24.50  C
Water air content :   0.00  ml/lt



YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS270.D03 - Continued

Run number : 172
* Note that ambient pressure went up 2 points (from 2.443 to 2.445)
*
Angle of attack : 2.00 degrees
Tunnel pressure = 1.955 ftHgA = 11.52 psiA
Speed manometer = 4.454 ftHgW = 59.70 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7206	3.9766	-3.2059	-0.4829	-1.5825	0.0009	0.4726
	0.0088	0.0169	0.0650	0.1234	0.4469	0.0024	0.0062
1	-0.6877	3.9458	-3.0986	-0.4552	-1.6116	0.1013	-2.3328
	0.0104	0.0137	0.0291	0.1023	0.1654	0.0033	0.0097
2	-0.7051	3.9459	-3.1635	-0.4713	-1.6052	0.2028	-2.3596
	0.0145	0.0188	0.0631	0.0842	0.2940	0.0034	0.0163
3	-0.7078	3.9356	-3.1193	-0.4428	-1.6149	0.3047	-2.2937
	0.0052	0.0183	0.0341	0.0851	0.1747	0.0036	0.0077
4	-0.7243	3.9536	-3.1676	-0.4596	-1.6022	0.4066	-2.2817
	0.0094	0.0162	0.0464	0.0768	0.3448	0.0048	0.0105
5	-0.7002	3.9767	-3.1795	-0.4594	-1.6111	0.5090	-2.3008
	0.0048	0.0147	0.0499	0.0902	0.2605	0.0045	0.0096
6	-0.6992	3.9858	-3.2147	-0.4618	-1.6013	0.6114	-2.2868
	0.0117	0.0142	0.0554	0.1101	0.3079	0.0057	0.0145
7	-0.6889	3.9682	-3.1562	-0.4586	-1.6094	0.7122	-2.2620
	0.0107	0.0151	0.0516	0.0812	0.2069	0.0051	0.0100
8	-0.6887	3.9706	-3.1478	-0.4517	-1.6326	0.8156	-2.2275
	0.0055	0.0143	0.0433	0.0948	0.1428	0.0044	0.0086
9	-0.7209	3.9743	-3.2384	-0.5098	-1.4937	0.9164	-2.0535
	0.0087	0.0139	0.0684	0.1203	0.4715	0.0098	0.0402
10	-0.7237	3.9802	-3.2095	-0.4969	-1.5825	1.0206	-1.5913
	0.0056	0.0148	0.0518	0.0883	0.3417	0.0085	0.0390
11	-0.6820	3.9515	-3.1296	-0.4614	-1.6280	1.1255	-0.5147
	0.0100	0.0158	0.0458	0.0761	0.1501	0.0060	0.0060
12	-0.6826	3.9469	-3.1294	-0.4572	-1.6364	1.2288	0.0030
	0.0056	0.0157	0.0382	0.0852	0.1369	0.0064	0.0050

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.05	24.53	376.78	11.49	17.66	0.00	2.55
1	-2.88	24.34	363.90	10.86	18.00	1.00	-11.48
2	-2.97	24.34	371.69	11.22	17.92	2.00	-11.61
3	-2.98	24.28	366.39	10.56	18.03	3.00	-11.28
4	-3.06	24.39	372.19	10.95	17.89	4.00	-11.22
5	-2.95	24.53	373.61	10.95	17.99	5.00	-11.32
6	-2.94	24.59	377.84	11.00	17.88	6.00	-11.25
7	-2.89	24.48	370.81	10.93	17.97	7.00	-11.13
8	-2.89	24.50	369.81	10.78	18.23	8.00	-10.95
9	-3.05	24.52	380.68	12.10	16.67	9.00	-10.08
10	-3.06	24.56	377.21	11.81	17.66	10.00	-7.77
11	-2.86	24.38	367.62	11.00	18.18	11.00	-2.39
12	-2.86	24.35	367.60	10.90	18.27	12.00	0.20
Averages	-2.96	24.45	372.11	11.12	17.88	6.00	-8.29

Total Forces (including tare forces) :

Lift	= 372.11 lbs,	CL =	0.428
Drag	= 11.12 lbs,	CD =	0.0128
Moment	= 17.88 ft-lbs,	CM =	0.041

Tunnel Pressure & Velocity :

Pt	= -2.96 psiG	=	11.45 psiA
Pv	= 24.45 Dpsi,	Vt =	59.86 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.55	-0.105
1	0.030	-11.48	0.478
2	0.060	-11.61	0.483
3	0.110	-11.28	0.471
4	0.160	-11.22	0.466
5	0.260	-11.32	0.467
6	0.330	-11.25	0.463
7	0.450	-11.13	0.460
8	0.560	-10.95	0.453
9	0.680	-10.08	0.417
10	0.810	-7.77	0.321
11	0.900	-2.39	0.099
12	0.950	0.20	-0.008

* tap 2 has been tried 3 times
*
EOR

YTS270.D03 - Continued

Run number : 259
* tare run for run 172
*
Angle of attack : 2.00 degrees
Tunnel pressure = 1.871 ftHgA = 11.03 psiA
Speed manometer = 4.504 ftHgW = 60.04 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.7199	3.9626	-0.0616	-0.1475	0.0083	0.1087	0.5652
	0.0196	0.0239	0.0231	0.1323	0.0244	0.0023	0.0184
1	-0.7060	3.9357	-0.0613	-0.1439	0.0081	0.1086	0.5509
	0.0102	0.0213	0.0176	0.1462	0.0185	0.0023	0.0105
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.13	24.47	-5.35	4.13	-0.03	0.00	3.65
1	-3.06	24.30	-5.38	4.04	-0.03	1.00	3.58
Averages	-3.10	24.38	-5.37	4.08	-0.03	0.50	3.62

Tare Forces :

Lift = -5.37 lbs, CL = -0.006
Drag = 4.08 lbs, CD = 0.0047
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

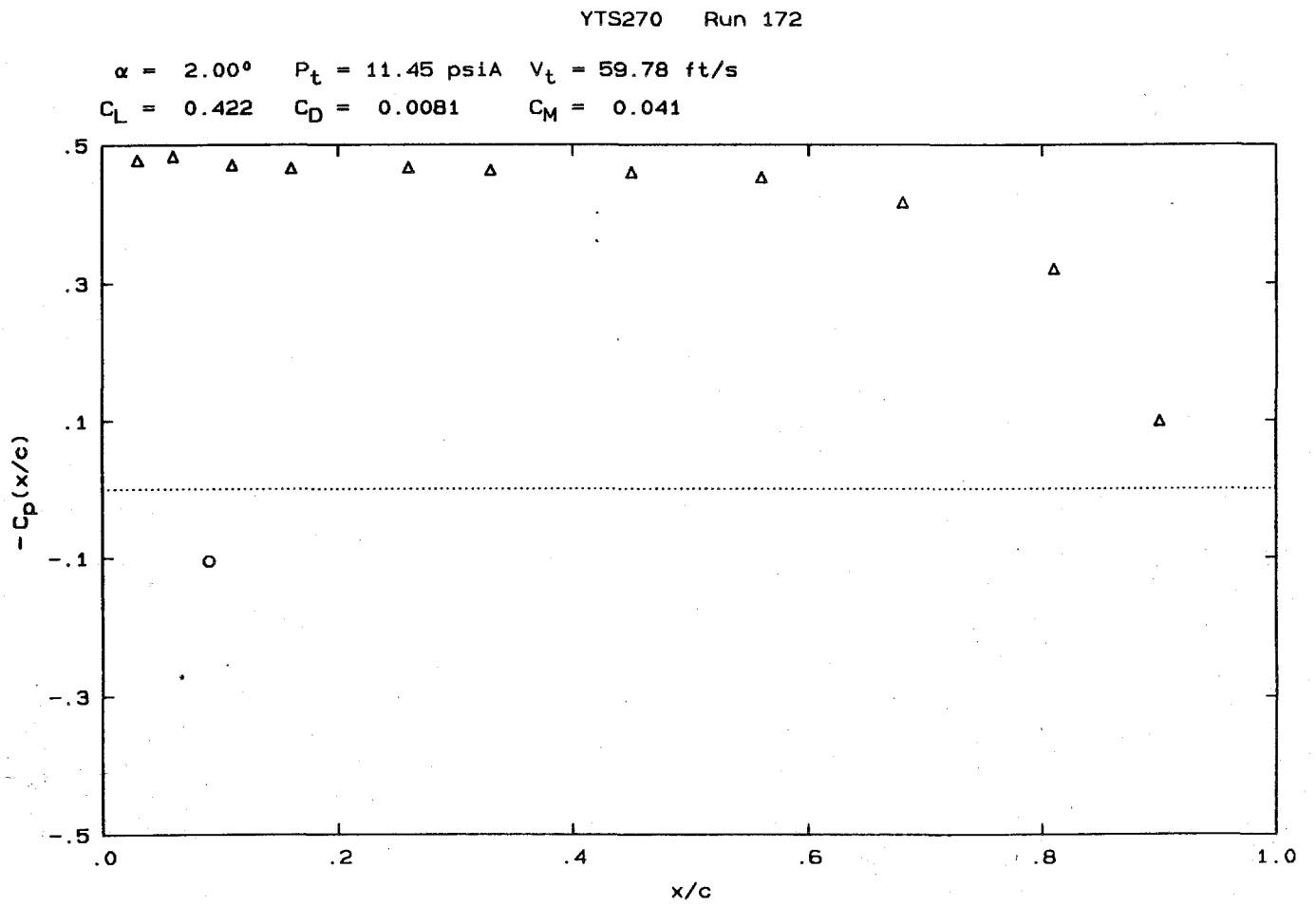
Pt = -3.10 psiG = 11.30 psiA
Pv = 24.38 Dpsi, Vt = 59.78 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 366.74 lbs, CL = 0.422
Drag = 7.04 lbs, CD = 0.0081
Moment = 17.85 ft-lbs, CM = 0.041

EOF YTS270.D03


YTS270 Run 172
α = 2.00° Pt = 11.45 psiA Vt = 59.78 ft/s
CL = 0.422 CD = 0.0081 CM = 0.041
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS271.D03      3-FEB-88
YTS271.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS271.dat     24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*   .9 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.445 ft HgA,  = 14.41 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt




YTS313.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :    2.442 ft HgA,  = 14.39 psiA
Water temperature :    0.00  C
Water air content :    0.00  ml/lt
```

YTS271.D03 - Continued

Run number : 173
* cavity induced from tap #1
*
Angle of attack : 2.00 degrees
Tunnel pressure = 1.858 ftHgA = 10.95 psiA
Speed manometer = 4.443 ftHgW = 59.63 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8142	3.9380	-3.2944	-0.6511	-0.8937	-0.8211	-2.2451
	0.0091	0.0159	0.2766	0.3069	4.5947	4.3119	0.0125
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.50	24.29	387.37	15.29	9.93	0.00	-11.04
Averages	-3.50	24.29	387.49	15.30	9.94	0.00	-11.04

YTS271.D03 Run 173 - Continued

Total Forces (including tare forces) :

Lift	= 387.49 lbs,	CL =	0.449
Drag	= 15.30 lbs,	CD =	0.0177
Moment	= 9.94 ft-lbs,	CM =	0.023

Tunnel Pressure & Velocity :

Pt	= -3.50 psiG	=	10.91 psiA
Pv	= 24.29 Dpsi,	Vt =	59.67 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-11.04	0.460

*
EOR

YTS271.D03 - Continued

Run number : 260
* tare run for run 173
*
Angle of attack : 2.00 degrees
Tunnel pressure = 1.817 ftHgA = 10.71 psiA
Speed manometer = 4.442 ftHgW = 59.63 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8807	3.9728	-0.0653	-0.1208	0.0061	0.1087	0.7113
	0.0119	0.0159	0.0343	0.2351	0.0416	0.0023	0.0100
1	-0.8441	3.9393	-0.0654	-0.1304	0.0081	0.1087	0.6760
	0.0107	0.0201	0.0266	0.1520	0.0222	0.0024	0.0120

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.92	24.53	-4.91	3.50	0.00	0.00	4.38
1	-3.74	24.32	-4.89	3.72	-0.03	1.00	4.20
Averages	-3.83	24.43	-4.90	3.61	-0.02	0.50	4.29

Tare Forces :

Lift = -4.90 lbs, CL = -0.006
Drag = 3.61 lbs, CD = 0.0042
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -3.83 psiG = 10.56 psiA
Pv = 24.43 Dpsi, Vt = 59.83 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 382.59 lbs, CL = 0.443
Drag = 11.68 lbs, CD = 0.0136
Moment = 9.92 ft-lbs, CM = 0.023

EOF YTS271.D03

```
YTS272.D03      3-FEB-88
YTS272.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS272.dat    24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
* Fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.445 ft HgA,  = 14.41 psiA
Water temperature :  24.50  C
Water air content :   0.00  ml/lt




YTS313.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS272.D03 - Continued

Run number : 174
*
Angle of attack : 2.00 degrees
Tunnel pressure = 3.521 ftHgA = 20.75 psiA
Speed manometer = 4.392 ftHgW = 59.29 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.1731	3.9055	-3.0457	-0.4229	-1.5594	0.0005	0.4319
	0.0086	0.0172	0.0262	0.0938	0.0307	0.0021	0.0080
1	1.2466	3.9123	-3.0270	-0.4418	-1.5405	0.1008	-2.3683
	0.0064	0.0187	0.0258	0.0901	0.0240	0.0032	0.0083
2	1.1907	3.9313	-3.0623	-0.4192	-1.5543	0.2021	-2.3554
	0.0084	0.0150	0.0236	0.1016	0.0306	0.0027	0.0088
3	1.1790	3.9137	-3.0463	-0.4358	-1.5480	0.3040	-2.3323
	0.0155	0.0195	0.0314	0.0958	0.0432	0.0031	0.0155
4	1.1401	3.9330	-3.0633	-0.4275	-1.5614	0.4056	-2.3653
	0.0080	0.0139	0.0230	0.0910	0.0320	0.0030	0.0087
5	1.1324	3.9366	-3.0604	-0.4343	-1.5601	0.5083	-2.3524
	0.0061	0.0135	0.0222	0.0817	0.0429	0.0029	0.0048
6	1.1719	3.9065	-3.0296	-0.4291	-1.5434	0.6106	-2.3359
	0.0141	0.0189	0.0351	0.0799	0.0352	0.0032	0.0067
7	1.1791	3.8737	-3.0183	-0.4261	-1.5325	0.7109	-2.2988
	0.0061	0.0138	0.0220	0.0879	0.0374	0.0035	0.0101
8	1.1455	3.9107	-3.0368	-0.4325	-1.5510	0.8144	-2.2083
	0.0096	0.0183	0.0259	0.0950	0.0280	0.0034	0.0081
9	1.1071	3.9609	-3.0913	-0.4376	-1.5715	0.9180	-1.9025
	0.0071	0.0136	0.0259	0.0729	0.0307	0.0033	0.0103
10	1.1766	3.9139	-3.0386	-0.4160	-1.5553	1.0205	-1.3850
	0.0107	0.0159	0.0305	0.1051	0.0441	0.0033	0.0090
11	1.1516	3.9156	-3.0419	-0.4180	-1.5565	1.1241	-0.5142
	0.0104	0.0152	0.0250	0.0820	0.0389	0.0049	0.0080
12	1.1717	3.8910	-3.0309	-0.4264	-1.5406	1.2269	0.0049
	0.0088	0.0144	0.0237	0.1140	0.0519	0.0054	0.0066

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	6.25	24.09	357.55	10.10	17.41	0.00	2.34
1	6.61	24.14	355.30	10.54	17.20	1.00	-11.66
2	6.33	24.25	359.54	10.01	17.36	2.00	-11.59
3	6.27	24.14	357.62	10.40	17.29	3.00	-11.48
4	6.08	24.26	359.66	10.21	17.44	4.00	-11.64
5	6.05	24.29	359.31	10.37	17.42	5.00	-11.58
6	6.24	24.10	355.61	10.25	17.24	6.00	-11.49
7	6.27	23.90	354.26	10.17	17.11	7.00	-11.31
8	6.11	24.13	356.48	10.33	17.32	8.00	-10.86
9	5.92	24.44	363.02	10.45	17.55	9.00	-9.33
10	6.26	24.15	356.69	9.94	17.37	10.00	-6.74
11	6.14	24.16	357.09	9.99	17.38	11.00	-2.39
12	6.24	24.00	355.77	10.18	17.20	12.00	0.21
Averages	6.21	24.16	357.64	10.23	17.34	6.00	-8.27

YTS272.D03 Run 174 - Continued

Total Forces (including tare forces) :

Lift = 357.64 lbs, CL = 0.417
Drag = 10.23 lbs, CD = 0.0119
Moment = 17.34 ft-lbs, CM = 0.040

Tunnel Pressure & Velocity :

Pt = 6.21 psiG = 20.62 psiA
Pv = 24.16 Dpsi, Vt = 59.50 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.34	-0.099
1	0.030	-11.66	0.489
2	0.060	-11.59	0.484
3	0.110	-11.48	0.482
4	0.160	-11.64	0.486
5	0.260	-11.58	0.483
6	0.330	-11.49	0.483
7	0.450	-11.31	0.480
8	0.560	-10.86	0.456
9	0.680	-9.33	0.387
10	0.810	-6.74	0.283
11	0.900	-2.39	0.100
12	0.950	0.21	-0.009

* Taps 1 & 4 repeated
*
EOR

YTS272.D03 - Continued

Run number : 261
* tare run for run 174
*
Angle of attack : 2.00 degrees
Tunnel pressure = 3.469 ftHgA = 20.45 psiA
Speed manometer = 4.502 ftHgW = 60.03 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.1227	3.9917	-0.0661	-0.1130	0.0073	0.1087	-1.2422
	0.0094	0.0120	0.0121	0.1431	0.0314	0.0024	0.0105
1	1.1686	3.9441	-0.0643	-0.1044	0.0085	0.1087	-1.2846
	0.0089	0.0181	0.0119	0.1450	0.0229	0.0023	0.0104

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	5.91	24.65	-4.81	3.32	-0.02	0.00	-5.39
1	6.14	24.35	-5.02	3.11	-0.03	1.00	-5.60
Averages	6.02	24.50	-4.92	3.22	-0.02	0.50	-5.49

Tare Forces :

Lift = -4.92 lbs, CL = -0.006
Drag = 3.22 lbs, CD = 0.0037
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

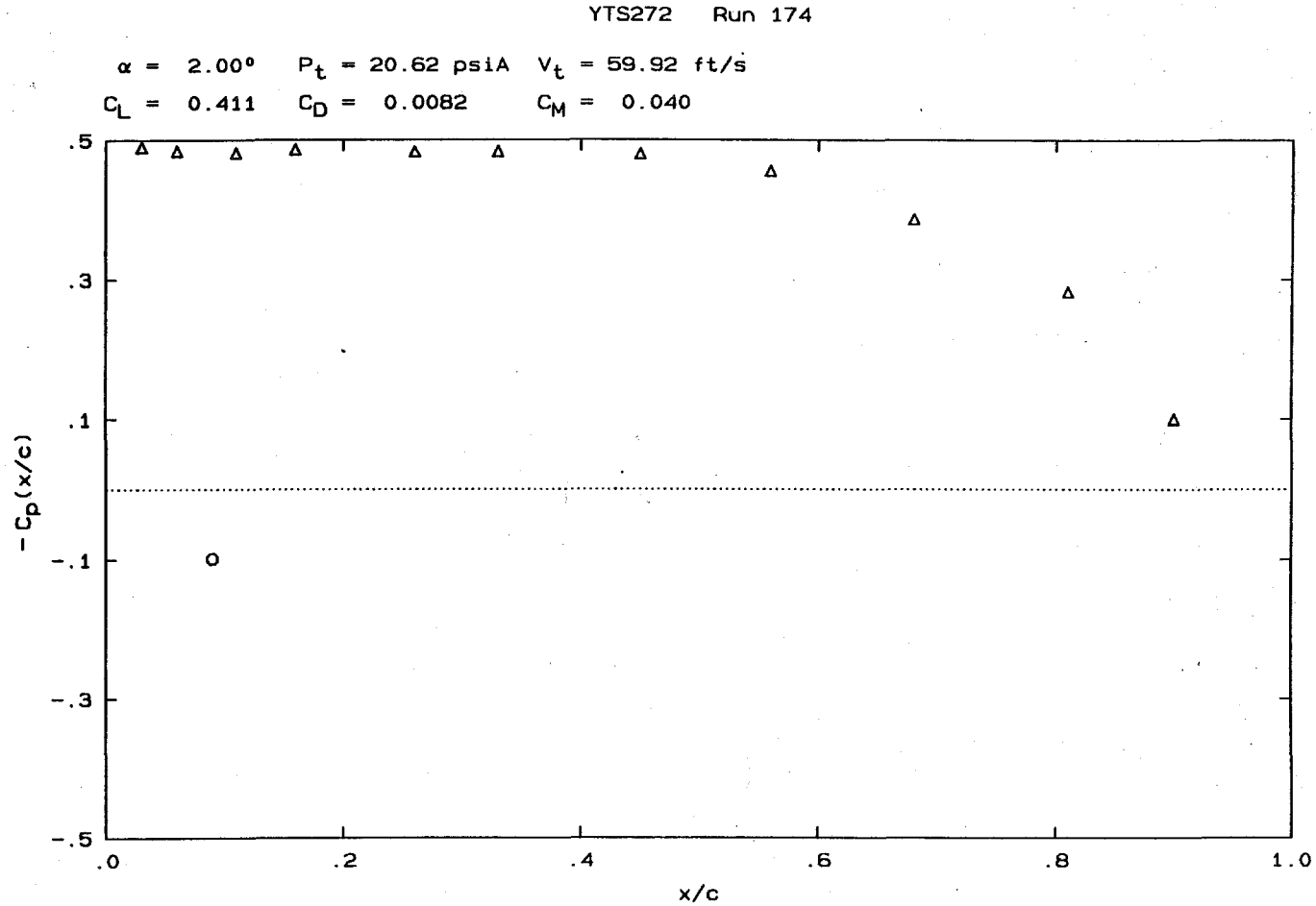
Pt = 6.02 psiG = 20.42 psiA
Pv = 24.50 Dpsi, Vt = 59.92 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 352.72 lbs, CL = 0.411
Drag = 7.01 lbs, CD = 0.0082
Moment = 17.31 ft-lbs, CM = 0.040

EOF YTS272.D03


YTS272 Run 174
α = 2.00° Pt = 20.62 psiA Vt = 59.92 ft/s
CL = 0.411 CD = 0.0082 CM = 0.040
.5
.3
.1
-.1
-.3
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

```
YTS273.D03      3-FEB-88
YTS273.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS273.dat    24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*  1 deg   fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.445 ft HgA,  = 14.41 psiA
Water temperature :  25.10  C
Water air content :   0.00  ml/lt




YTS314.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS273.D03 - Continued

Run number : 175
* water temp went up to 25.1
*
Angle of attack : 1.00 degrees
Tunnel pressure = 3.204 ftHgA = 18.88 psiA
Speed manometer = 4.467 ftHgW = 59.79 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.8394	3.9204	-2.4513	-0.4299	-0.7952	0.0003	0.0579
	0.0085	0.0163	0.0223	0.0546	0.0482	0.0022	0.0079
1	0.8332	3.9215	-2.4234	-0.4501	-0.7810	0.1005	-1.4687
	0.0072	0.0170	0.0241	0.0742	0.0445	0.0031	0.0104
2	0.8054	3.9316	-2.4373	-0.4490	-0.7902	0.2012	-1.7010
	0.0137	0.0141	0.0200	0.0514	0.0373	0.0029	0.0127
3	0.8797	3.9515	-2.4365	-0.4556	-0.7903	0.3019	-1.8723
	0.0112	0.0119	0.0248	0.0497	0.0427	0.0030	0.0113
4	0.7992	3.9321	-2.4457	-0.4277	-0.7867	0.4020	-1.9789
	0.0054	0.0152	0.0233	0.0658	0.0321	0.0030	0.0078
5	0.8129	3.9591	-2.4579	-0.4349	-0.7971	0.5031	-2.0820
	0.0071	0.0113	0.0228	0.0648	0.0540	0.0029	0.0080
6	0.8427	3.9296	-2.4332	-0.4330	-0.7876	0.6038	-2.0553
	0.0132	0.0181	0.0249	0.0462	0.0665	0.0028	0.0123
7	0.8287	3.9523	-2.5069	-0.4082	-0.8006	0.7024	-2.0309
	0.0066	0.0134	0.0413	0.0689	0.0672	0.0026	0.0038
8	0.8562	3.9256	-2.4816	-0.4122	-0.7886	0.8030	-1.9975
	0.0093	0.0143	0.0345	0.0898	0.0347	0.0031	0.0131
9	0.8404	3.9019	-2.4536	-0.4181	-0.7879	0.9042	-1.7959
	0.0174	0.0203	0.0202	0.0617	0.0138	0.0038	0.0081
10	0.7852	3.9424	-2.4884	-0.4227	-0.8053	1.0057	-1.3369
	0.0157	0.0161	0.0257	0.0763	0.0267	0.0046	0.0118
11	0.7832	3.9649	-2.4967	-0.4245	-0.8036	1.1070	-0.4932
	0.0108	0.0135	0.0265	0.0922	0.0321	0.0047	0.0089
12	0.8052	3.9714	-2.4978	-0.4257	-0.8155	1.2088	0.0269
	0.0067	0.0131	0.0264	0.0737	0.0350	0.0024	0.0080

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.61	24.19	286.09	10.28	8.88	0.00	0.47
1	4.58	24.19	282.73	10.76	8.72	1.00	-7.16
2	4.44	24.26	284.40	10.73	8.82	2.00	-8.32
3	4.81	24.38	284.30	10.89	8.82	3.00	-9.18
4	4.41	24.26	285.41	10.23	8.78	4.00	-9.71
5	4.48	24.43	286.87	10.40	8.90	5.00	-10.23
6	4.62	24.24	283.91	10.36	8.79	6.00	-10.09
7	4.56	24.38	292.76	9.77	8.94	7.00	-9.97
8	4.69	24.22	289.73	9.86	8.80	8.00	-9.80
9	4.61	24.07	286.37	10.00	8.80	9.00	-8.79
10	4.34	24.32	290.54	10.11	8.99	10.00	-6.50
11	4.33	24.46	291.54	10.15	8.97	11.00	-2.28
12	4.44	24.50	291.67	10.18	9.10	12.00	0.32
Averages	4.53	24.30	287.49	10.29	8.87	6.00	-7.02

Total Forces (including tare forces) :

Lift	= 287.49 lbs,	CL =	0.333
Drag	= 10.29 lbs,	CD =	0.0119
Moment	= 8.87 ft-lbs,	CM =	0.021

Tunnel Pressure & Velocity :

Pt	= 4.53 psiG	= 18.94 psiA	
Pv	= 24.30 Dpsi,	Vt = 59.68 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.47	-0.020
1	0.030	-7.16	0.300
2	0.060	-8.32	0.348
3	0.110	-9.18	0.381
4	0.160	-9.71	0.406
5	0.260	-10.23	0.424
6	0.330	-10.09	0.422
7	0.450	-9.97	0.414
8	0.560	-9.80	0.410
9	0.680	-8.79	0.370
10	0.810	-6.50	0.271
11	0.900	-2.28	0.094
12	0.950	0.32	-0.013

* tap 7 has been repeated 3 times
*
EOR

YTS273.D03 - Continued

Run number : 262
* tare run for run 175
*
Angle of attack : 1.00 degrees
Tunnel pressure = 3.240 ftHgA = 19.10 psiA
Speed manometer = 4.459 ftHgW = 59.74 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.8806	3.9381	-0.0728	-0.0665	0.0051	0.1086	-1.0319
	0.0068	0.0137	0.0127	0.1265	0.0175	0.0023	0.0082

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.72	24.31	-4.00	2.22	0.01	0.00	-4.33
Averages	4.72	24.31	-4.00	2.23	0.01	0.00	-4.33

Tare Forces :

Lift = -4.00 lbs, CL = -0.005
Drag = 2.23 lbs, CD = 0.0026
Moment = 0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 4.72 psiG = 19.12 psiA
Pv = 24.31 Dpsi, Vt = 59.70 ft/s

*
EOR

Model Forces (excluding tare forces) :

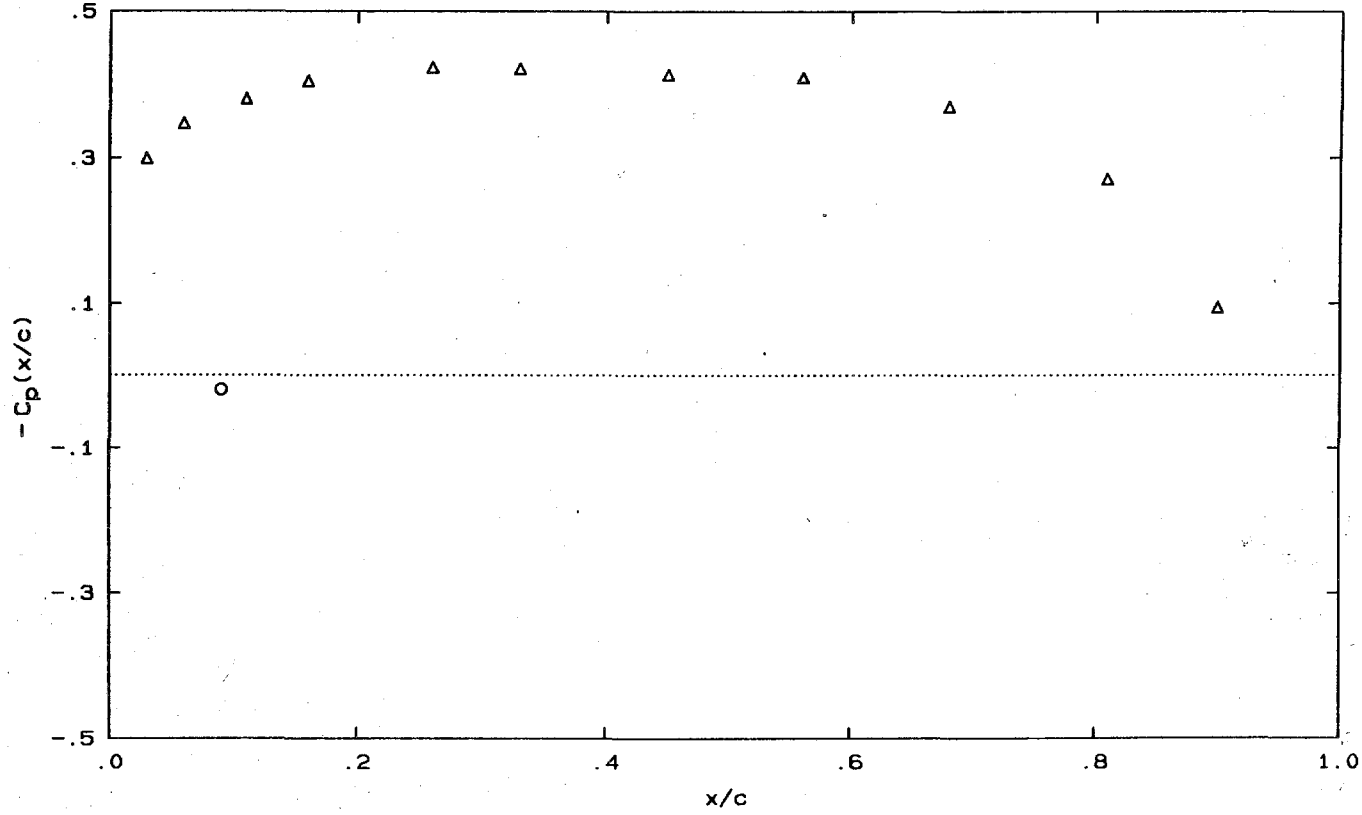
Lift = 283.50 lbs, CL = 0.328
Drag = 8.06 lbs, CD = 0.0093
Moment = 8.88 ft-lbs, CM = 0.021

EOF YTS273.D03

YTS273 Run 175

α = 1.00° P_t = 18.94 psiA V_t = 59.70 ft/s

C_L = 0.328 C_D = 0.0093 C_M = 0.021



YTS274.D03 3-FEB-88
YTS274.D01 3-DEC-87
Using YTS265_278.COR correction file.

YTS274.dat 24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
* cavitation inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.445 ft HgA, = 14.41 psiA
Water temperature : 25.10 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS274.D03 - Continued

Run number : 176
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.794 ftHgA = 10.57 psiA
Speed manometer = 4.456 ftHgW = 59.72 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8518	3.9633	-2.4898	-0.4328	-0.8644	0.0005	0.0747
	0.0055	0.0164	0.0237	0.0889	0.0403	0.0021	0.0071
1	-0.8656	3.9507	-2.4918	-0.4437	-0.8673	0.1006	-1.5825
	0.0106	0.0133	0.0216	0.0753	0.0518	0.0031	0.0073
2	-0.8786	3.9705	-2.5049	-0.4447	-0.8636	0.2013	-1.7641
	0.0052	0.0217	0.0233	0.0792	0.0534	0.0027	0.0076
3	-0.8651	3.9501	-2.4937	-0.4405	-0.8663	0.3020	-1.8852
	0.0140	0.0174	0.0244	0.0877	0.0357	0.0029	0.0120
4	-0.8596	3.9440	-2.4881	-0.4397	-0.8636	0.4023	-2.0090
	0.0105	0.0163	0.0228	0.0770	0.0400	0.0029	0.0146
5	-0.8868	3.9593	-2.5021	-0.4335	-0.8632	0.5031	-2.0810
	0.0110	0.0135	0.0269	0.0862	0.0505	0.0030	0.0109
6	-0.8542	3.9327	-2.4821	-0.4352	-0.8625	0.6037	-2.0579
	0.0101	0.0203	0.0219	0.0784	0.0383	0.0028	0.0102
7	-0.8639	3.9817	-2.5119	-0.4407	-0.8698	0.7027	-2.0223
	0.0089	0.0149	0.0251	0.0826	0.0441	0.0025	0.0081
8	-0.8807	3.9606	-2.4979	-0.4409	-0.8591	0.8034	-2.0559
	0.0056	0.0135	0.0184	0.0927	0.0450	0.0028	0.0062
9	-0.8757	3.9518	-2.4959	-0.4432	-0.8672	0.9047	-1.8116
	0.0101	0.0126	0.0226	0.0862	0.0533	0.0039	0.0086
10	-0.8706	3.9558	-2.4913	-0.4432	-0.8646	1.0061	-1.3484
	0.0078	0.0171	0.0281	0.0896	0.0509	0.0047	0.0066
11	-0.8798	3.9508	-2.4874	-0.4503	-0.8573	1.1075	-0.4952
	0.0045	0.0118	0.0237	0.0755	0.0286	0.0045	0.0063
12	-0.9130	3.9687	-2.5163	-0.4431	-0.8596	1.2094	0.0262
	0.0056	0.0161	0.0233	0.0684	0.0653	0.0024	0.0058

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.69	24.45	290.71	10.36	9.65	0.00	0.56
1	-3.76	24.37	290.95	10.61	9.68	1.00	-7.73
2	-3.82	24.50	292.52	10.63	9.64	2.00	-8.64
3	-3.75	24.37	291.18	10.53	9.67	3.00	-9.24
4	-3.73	24.33	290.51	10.52	9.64	4.00	-9.86
5	-3.86	24.43	292.19	10.37	9.64	5.00	-10.22
6	-3.70	24.26	289.79	10.41	9.63	6.00	-10.10
7	-3.75	24.57	293.36	10.54	9.71	7.00	-9.93
8	-3.83	24.43	291.68	10.54	9.59	8.00	-10.09
9	-3.81	24.38	291.44	10.60	9.68	9.00	-8.87
10	-3.78	24.41	290.89	10.60	9.65	10.00	-6.56
11	-3.83	24.37	290.42	10.76	9.57	11.00	-2.29
12	-3.99	24.49	293.89	10.59	9.60	12.00	0.32
Averages	-3.79	24.41	291.59	10.55	9.65	6.00	-7.13

YTS274.D03 Run 176 - Continued

Total Forces (including tare forces) :

Lift	= 291.59 lbs,	CL =	0.336
Drag	= 10.55 lbs,	CD =	0.0122
Moment	= 9.65 ft-lbs,	CM =	0.022

Tunnel Pressure & Velocity :

Pt	= -3.79 psiG	=	10.62 psiA
Pv	= 24.41 Dpsi,	Vt =	59.81 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.56	-0.023
1	0.030	-7.73	0.321
2	0.060	-8.64	0.357
3	0.110	-9.24	0.384
4	0.160	-9.86	0.411
5	0.260	-10.22	0.424
6	0.330	-10.10	0.422
7	0.450	-9.93	0.409
8	0.560	-10.09	0.419
9	0.680	-8.87	0.369
10	0.810	-6.56	0.272
11	0.900	-2.29	0.095
12	0.950	0.32	-0.013

* tap 7 repeated
*
EOR

YTS274.D03 - Continued

Run number : 263
* tare run for run 176
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.822 ftHgA = 10.74 psiA
Speed manometer = 4.461 ftHgW = 59.75 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.8885	3.9497	-0.0720	-0.1294	0.0045	0.1086	0.7006
	0.0056	0.0167	0.0207	0.1057	0.0179	0.0023	0.0053
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-3.96	24.39	-4.10	3.70	0.01	0.00	4.33
Averages	-3.96	24.39	-4.10	3.70	0.01	0.00	4.33

Tare Forces :

Lift = -4.10 lbs, CL = -0.005
Drag = 3.70 lbs, CD = 0.0043
Moment = 0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

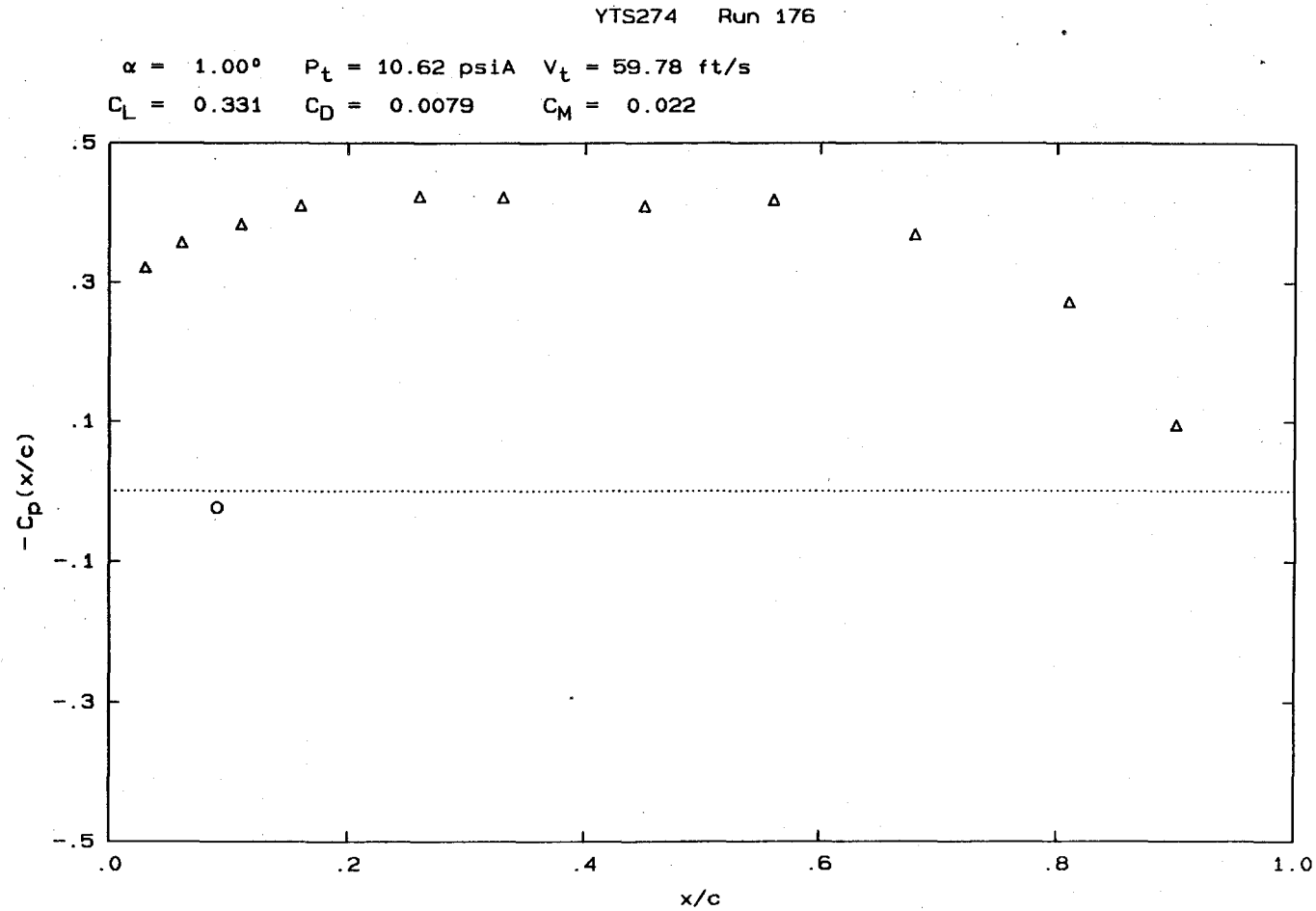
Pt = -3.96 psiG = 10.44 psiA
Pv = 24.39 Dpsi, Vt = 59.78 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 287.49 lbs, CL = 0.331
Drag = 6.85 lbs, CD = 0.0079
Moment = 9.66 ft-lbs, CM = 0.022

EOF YTS274.D03


YTS274 Run 176
α = 1.00° P_t = 10.62 psiA V_t = 59.78 ft/s
C_L = 0.331 C_D = 0.0079 C_M = 0.022
.5
.3
.1
-.1
-.3
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS275.D03 3-FEB-88
YTS275.D01 3-DEC-87
Using YTS265_278.COR correction file.

YTS275.dat 24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.445 ft HgA, = 14.41 psiA
Water temperature : 25.10 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS275.D03 - Continued

Run number : 177
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.751 ftHgA = 10.32 psiA
Speed manometer = 4.447 ftHgW = 59.66 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.9687	3.9688	-2.5500	-0.4834	-0.8172	0.0006	0.0979
	0.0073	0.0139	0.0743	0.1345	0.2871	0.0023	0.0086
1	-0.9482	3.9797	-2.5678	-0.4669	-0.8279	0.1008	-1.5971
	0.0074	0.0152	0.0872	0.1118	0.2468	0.0030	0.0087
2	-0.9821	3.9607	-2.5766	-0.4922	-0.8597	0.2016	-1.7741
	0.0137	0.0150	0.1183	0.1389	0.3922	0.0027	0.0162
3	-0.9810	3.9544	-2.5473	-0.4875	-0.8231	0.3023	-1.9064
	0.0044	0.0170	0.0985	0.1318	0.2861	0.0031	0.0066
4	-0.9626	3.9399	-2.5231	-0.4535	-0.8264	0.4024	-2.0085
	0.0060	0.0176	0.0659	0.1044	0.2587	0.0029	0.0090
5	-0.9930	3.9801	-2.6040	-0.5217	-0.7361	0.5043	-1.9854
	0.0091	0.0149	0.1322	0.2328	0.5751	0.0037	0.0112
6	-0.9511	3.9647	-2.5283	-0.4457	-0.8435	0.6042	-2.0275
	0.0126	0.0163	0.0532	0.0887	0.1692	0.0027	0.0075
7	-0.9601	3.9563	-2.5309	-0.4571	-0.8405	0.7030	-1.9353
	0.0094	0.0140	0.0610	0.0955	0.1786	0.0025	0.0084
8	-0.9884	3.9937	-2.6082	-0.4833	-0.7785	0.8055	-1.9479
	0.0147	0.0199	0.1250	0.2501	0.4959	0.0051	0.0164
9	-0.9321	3.9736	-2.5382	-0.4378	-0.8438	0.9050	-1.9628
	0.0113	0.0144	0.0497	0.1066	0.1476	0.0038	0.0109
10	-0.9750	3.9846	-2.6089	-0.5023	-0.7180	1.0082	-1.5605
	0.0100	0.0177	0.1099	0.1874	0.4979	0.0065	0.0417
11	-0.9663	3.9767	-2.5817	-0.4663	-0.7971	1.1092	-0.5395
	0.0068	0.0159	0.0876	0.1251	0.3840	0.0069	0.0222
12	-0.9930	4.0068	-2.6636	-0.5671	-0.6454	1.2111	-0.0713
	0.0120	0.0173	0.1200	0.2256	0.5874	0.0077	0.0611

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.26	24.49	297.94	11.52	9.12	0.00	0.67
1	-4.16	24.55	300.07	11.14	9.24	1.00	-7.80
2	-4.33	24.44	301.13	11.73	9.59	2.00	-8.69
3	-4.32	24.40	297.61	11.62	9.18	3.00	-9.35
4	-4.23	24.31	294.71	10.82	9.22	4.00	-9.86
5	-4.38	24.56	304.42	12.40	8.20	5.00	-9.74
6	-4.18	24.46	295.33	10.65	9.42	6.00	-9.95
7	-4.22	24.41	295.65	10.91	9.38	7.00	-9.49
8	-4.36	24.64	304.92	11.51	8.68	8.00	-9.55
9	-4.08	24.52	296.52	10.46	9.42	9.00	-9.63
10	-4.29	24.58	305.00	11.94	8.00	10.00	-7.62
11	-4.25	24.53	301.74	11.11	8.89	11.00	-2.51
12	-4.38	24.72	311.56	13.44	7.18	12.00	-0.17
Averages	-4.27	24.51	300.59	11.48	8.89	6.00	-7.21

Total Forces (including tare forces) :

Lift	= 300.59 lbs,	CL =	0.345
Drag	= 11.48 lbs,	CD =	0.0132
Moment	= 8.89 ft-lbs,	CM =	0.020

Tunnel Pressure & Velocity :

Pt	= -4.27 psiG	= 10.14 psiA	
Pv	= 24.51 Dpsi,	Vt = 59.93 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.67	-0.028
1	0.030	-7.80	0.322
2	0.060	-8.69	0.360
3	0.110	-9.35	0.388
4	0.160	-9.86	0.411
5	0.260	-9.74	0.402
6	0.330	-9.95	0.412
7	0.450	-9.49	0.394
8	0.560	-9.55	0.393
9	0.680	-9.63	0.398
10	0.810	-7.62	0.314
11	0.900	-2.51	0.104
12	0.950	-0.17	0.007

*
EOR

YTS275.D03 - Continued

Run number : 264
* tare run for run 177
*
Angle of attack : 1.00 degrees
Tunnel pressure = 1.727 ftHgA = 10.18 psiA
Speed manometer = 4.460 ftHgW = 59.75 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.9631	3.9446	-0.0699	-0.1452	0.0043	0.1087	0.7773
	0.0051	0.0220	0.0197	0.0805	0.0216	0.0023	0.0034
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.32	24.35	-4.35	4.07	0.01	0.00	4.71
Averages	-4.32	24.35	-4.35	4.07	0.01	0.00	4.71

Tare Forces :

Lift = -4.35 lbs, CL = -0.005
Drag = 4.07 lbs, CD = 0.0047
Moment = 0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -4.32 psiG = 10.07 psiA
Pv = 24.35 Dpsi, Vt = 59.74 ft/s

*
EOR

Model Forces (excluding tare forces) :

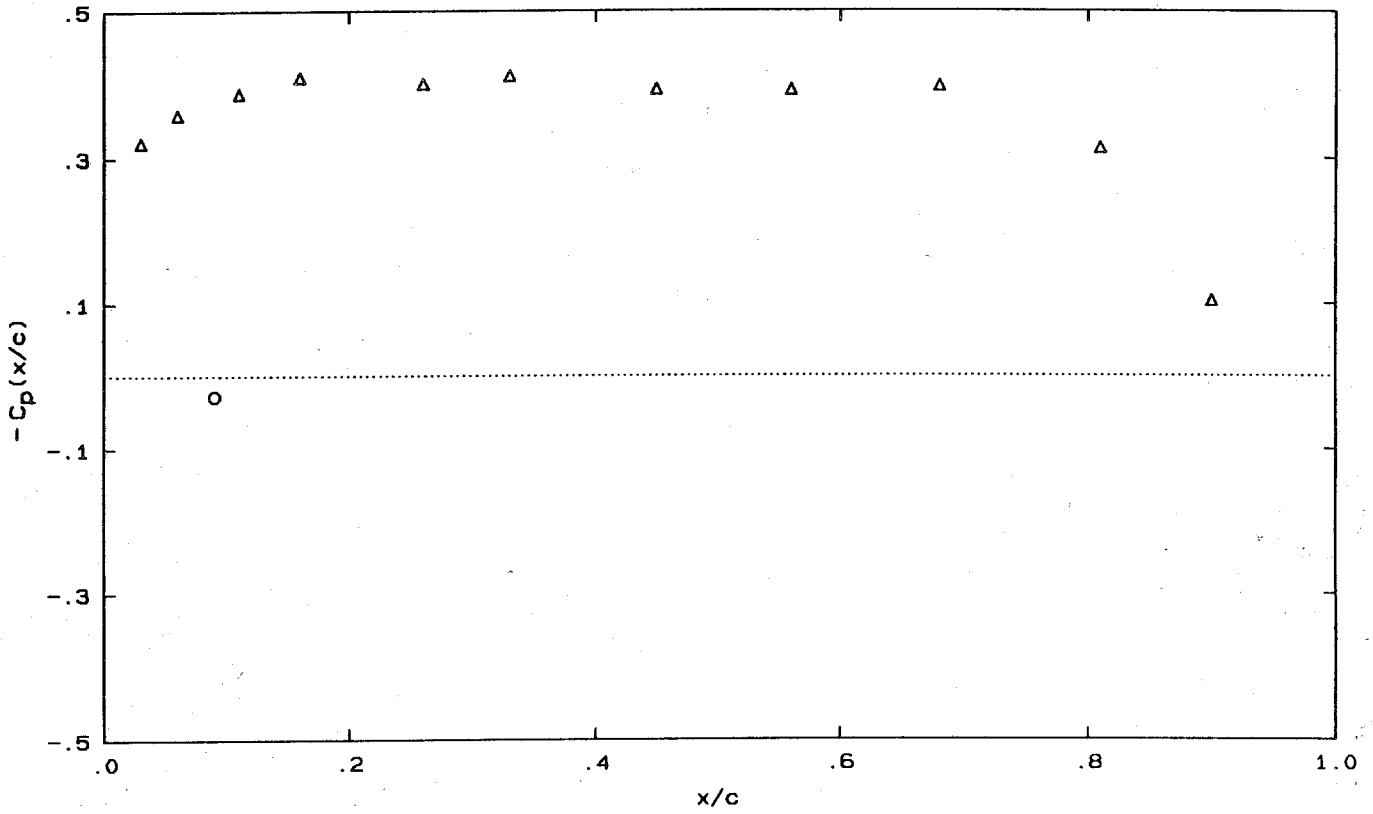
Lift = 296.23 lbs, CL = 0.340
Drag = 7.41 lbs, CD = 0.0085
Moment = 8.91 ft-lbs, CM = 0.020

EOF YTS275.D03

YTS275 Run 177

α = 1.00° P_t = 10.14 psiA V_t = 59.74 ft/s

C_L = 0.340 C_D = 0.0085 C_M = 0.020



```
YTS276.D03      3-FEB-88
YTS276.D01      3-DEC-87
Using YTS265_278.COR correction file.

YTS276.dat    24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*  35 ft per sec
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.445 ft HgA,  = 14.41 psiA
Water temperature :  25.10  C
Water air content :   0.00  ml/lt



YTS314.dat    06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

YTS276.D03 - Continued

Run number : 178
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.601 ftHgA = 3.54 psiA
Speed manometer = 1.537 ftHgW = 35.07 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3354	1.3677	-0.8936	-0.2236	-0.1905	0.0006	-0.0059
	0.0061	0.0066	0.0495	0.0694	0.0576	0.0024	0.0028
1	-2.3309	1.3685	-0.8968	-0.2169	-0.1856	0.1010	-0.5149
	0.0063	0.0067	0.0658	0.0858	0.1778	0.0030	0.0029
2	-2.3310	1.3639	-0.8913	-0.2060	-0.2180	0.2017	-0.6095
	0.0074	0.0062	0.0393	0.0584	0.3426	0.0026	0.0031
3	-2.3196	1.3646	-0.8965	-0.1938	-0.2205	0.3023	-0.6692
	0.0093	0.0064	0.0363	0.0514	0.0852	0.0031	0.0033
4	-2.3277	1.3608	-0.8950	-0.2005	-0.2268	0.4027	-0.6863
	0.0045	0.0069	0.0397	0.0458	0.1680	0.0030	0.0029
5	-2.3278	1.3625	-0.8923	-0.1985	-0.2534	0.5036	-0.6927
	0.0049	0.0061	0.0382	0.0572	0.2270	0.0030	0.0033
6	-2.3349	1.3718	-0.8699	-0.2159	-0.1865	0.6041	-0.6808
	0.0051	0.0065	0.0478	0.0527	0.3104	0.0028	0.0035
7	-2.3312	1.3630	-0.8866	-0.1964	-0.2225	0.7029	-0.6778
	0.0052	0.0068	0.0430	0.0537	0.0985	0.0025	0.0040
8	-2.3360	1.3725	-0.8814	-0.2061	-0.1964	0.8033	-0.6799
	0.0059	0.0064	0.0432	0.0743	0.4327	0.0029	0.0036
9	-2.3233	1.3547	-0.9033	-0.1956	-0.2334	0.9042	-0.6592
	0.0085	0.0060	0.0390	0.0639	0.1210	0.0037	0.0031
10	-2.3334	1.3651	-0.8986	-0.2119	-0.2274	1.0051	-0.5720
	0.0073	0.0063	0.0404	0.0588	0.2560	0.0048	0.0033
11	-2.3330	1.3755	-0.8978	-0.2110	-0.2087	1.1056	-0.3485
	0.0070	0.0060	0.0548	0.0627	0.2887	0.0046	0.0033
12	-2.3435	1.3804	-0.8899	-0.2120	-0.2277	1.2069	-0.1614
	0.0011	0.0044	0.0565	0.0732	0.4703	0.0021	0.0050

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.97	8.36	99.37	5.18	2.14	0.00	0.16
1	-10.95	8.36	99.76	5.02	2.09	1.00	-2.39
2	-10.95	8.34	99.10	4.77	2.45	2.00	-2.86
3	-10.89	8.34	99.72	4.48	2.48	3.00	-3.16
4	-10.93	8.32	99.54	4.64	2.55	4.00	-3.25
5	-10.93	8.33	99.22	4.60	2.85	5.00	-3.28
6	-10.96	8.38	96.52	5.00	2.10	6.00	-3.22
7	-10.95	8.33	98.53	4.55	2.50	7.00	-3.20
8	-10.97	8.39	97.91	4.77	2.21	8.00	-3.21
9	-10.91	8.28	100.54	4.52	2.62	9.00	-3.11
10	-10.96	8.34	99.97	4.91	2.55	10.00	-2.68
11	-10.96	8.41	99.88	4.89	2.35	11.00	-1.56
12	-11.01	8.44	98.93	4.91	2.56	12.00	-0.62
Averages	-10.95	8.35	99.19	4.79	2.42	6.00	-2.49

Total Forces (including tare forces) :

Lift = 99.19 lbs, CL = 0.334
Drag = 4.79 lbs, CD = 0.0161
Moment = 2.42 ft-lbs, CM = 0.016

Tunnel Pressure & Velocity :

Pt = -10.95 psiG = 3.46 psiA
Pv = 8.35 Dpsi, Vt = 34.99 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	0.16	-0.019
1	0.030	-2.39	0.289
2	0.060	-2.86	0.348
3	0.110	-3.16	0.384
4	0.160	-3.25	0.396
5	0.260	-3.28	0.399
6	0.330	-3.22	0.389
7	0.450	-3.20	0.390
8	0.560	-3.21	0.388
9	0.680	-3.11	0.381
10	0.810	-2.68	0.325
11	0.900	-1.56	0.188
12	0.950	-0.62	0.075

*
EOR

Run number : 265
* tare run for run 178
* problem with air bubbles in tunnel pressure gauge lines
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.429 ftHgA = 2.53 psiA
Speed manometer = 1.540 ftHgW = 35.11 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.4910	1.3681	-0.0906	-0.0702	0.0041	0.1086	2.1868
	0.0073	0.0045	0.0142	0.2152	0.0064	0.0023	0.0009
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.82	8.38	-1.40	1.79	-0.02	0.00	11.76
Averages	-11.82	8.38	-1.40	1.79	-0.02	0.00	11.76

Tare Forces :

Lift = -1.40 lbs, CL = -0.005
Drag = 1.79 lbs, CD = 0.0060
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

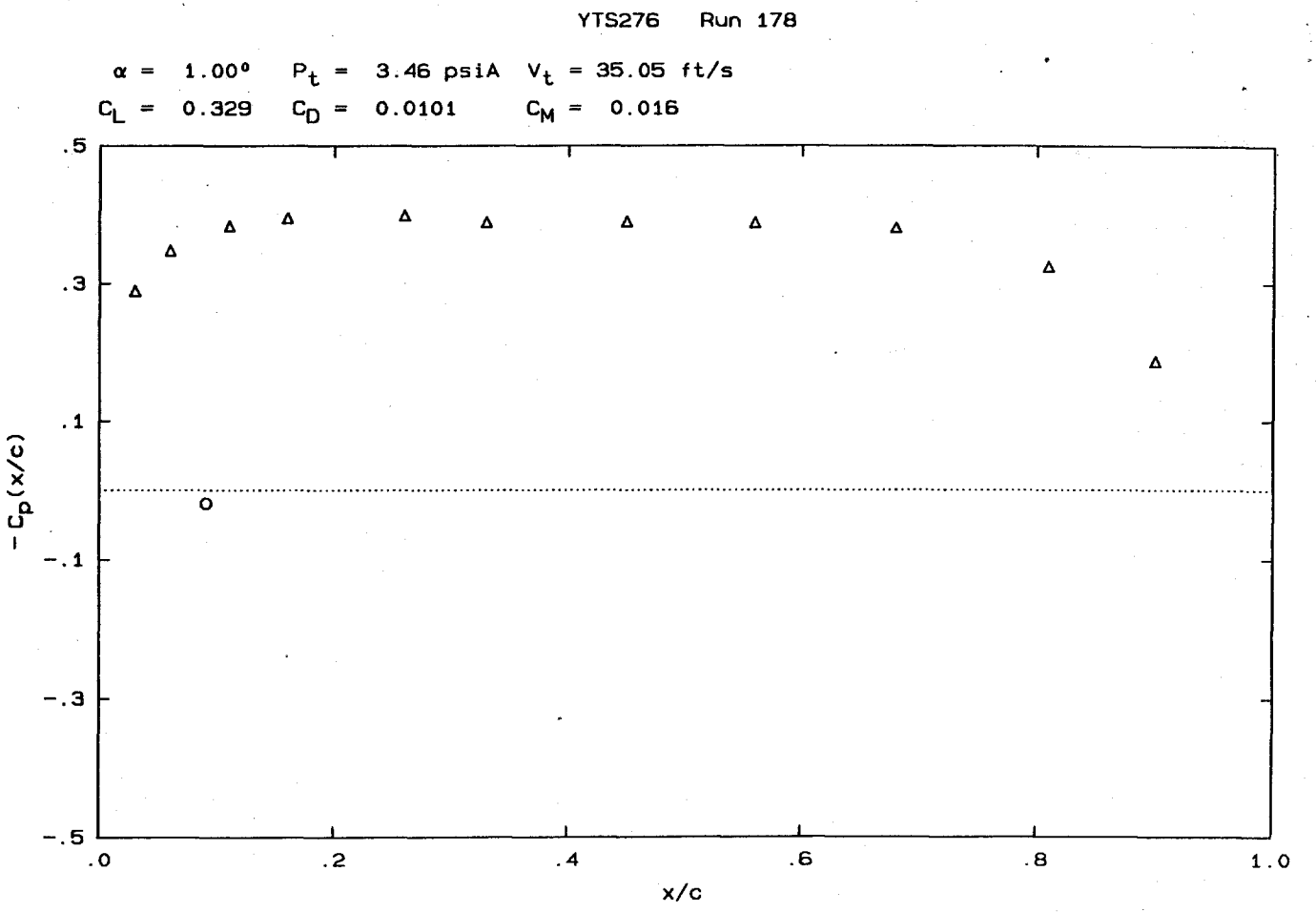
Pt = -11.82 psiG = 2.57 psiA
Pv = 8.38 Dpsi, Vt = 35.05 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 97.79 lbs, CL = 0.329
Drag = 3.00 lbs, CD = 0.0101
Moment = 2.40 ft-lbs, CM = 0.016

EOF YTS276.D03


YTS276 Run 178
α = 1.00° P_t = 3.46 psiA V_t = 35.05 ft/s
C_L = 0.329 C_D = 0.0101 C_M = 0.016
.5
.3
.1
-.1
-.3
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS277.D03 3-FEB-88
YTS277.D01 3-DEC-87
Using YTS265_278.COR correction file.

YTS277.dat 24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.445 ft HgA, = 14.41 psiA
Water temperature : 25.10 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS277.D03 - Continued

Run number : 179
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.559 ftHgA = 3.30 psiA
Speed manometer = 1.555 ftHgW = 35.28 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3619	1.3600	-0.8499	-0.2331	-0.1737	0.0004	-0.0462
	0.0078	0.0068	0.0665	0.0762	0.1998	0.0023	0.0036
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.10	8.31	94.12	5.40	1.95	0.00	-0.05
Averages	-11.10	8.31	94.15	5.41	1.95	0.00	-0.05

Total Forces (including tare forces) :

Lift	=	94.15 lbs,	CL =	0.319
Drag	=	5.41 lbs,	CD =	0.0183
Moment	=	1.95 ft-lbs,	CM =	0.013

Tunnel Pressure & Velocity :

Pt	= -11.10 psiG		=	3.31 psiA
Pv	= 8.31 Dpsi,		Vt =	34.90 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-0.05	0.006

*
EOR

YTS277.D03 - Continued

Run number : 266
* tare run for run 179
* problem with air bubbles in tunnel pressure gauge lines
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.370 ftHgA = 2.18 psiA
Speed manometer = 1.553 ftHgW = 35.25 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.5687	1.3818	-0.0929	-0.0881	0.0039	0.1086	2.2548
	0.0070	0.0064	0.0168	0.2229	0.0081	0.0023	0.0035
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-12.20	8.47	-1.13	2.21	-0.02	0.00	12.10
Averages	-12.20	8.47	-1.13	2.21	-0.02	0.00	12.10

Tare Forces :

Lift = -1.13 lbs, CL = -0.004
Drag = 2.21 lbs, CD = 0.0073
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -12.20 psiG = 2.19 psiA
Pv = 8.47 Dpsi, Vt = 35.22 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 93.02 lbs, CL = 0.315
Drag = 3.20 lbs, CD = 0.0110
Moment = 1.94 ft-lbs, CM = 0.013

EOF YTS277.D03

YTS278.D03 3-FEB-88
YTS278.D01 3-DEC-87
Using YTS265_278.COR correction file.

YTS278.dat 24-JUN-87
* Data processed using YTS265.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.445 ft HgA, = 14.41 psiA
Water temperature : 25.10 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS278.D03 - Continued

Run number : 180
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.513 ftHgA = 3.02 psiA
Speed manometer = 1.554 ftHgW = 35.26 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.4196	1.3652	-0.7363	-0.2775	-0.1128	0.0003	-0.0921
	0.0099	0.0062	0.0776	0.0899	0.1767	0.0024	0.0031
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.38	8.34	80.46	6.46	1.27	0.00	-0.28
Averages	-11.38	8.34	80.49	6.46	1.27	0.00	-0.28

Total Forces (including tare forces) :

Lift	= 80.49 lbs,	CL =	0.271
Drag	= 6.46 lbs,	CD =	0.0218
Moment	= 1.27 ft-lbs,	CM =	0.009

Tunnel Pressure & Velocity :

Pt	= -11.38 psiG	=	3.03 psiA
Pv	= 8.34 Dpsi,	Vt =	34.97 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-0.28	0.033

*
EOR

YTS278.D03 - Continued

Run number : 267
* tare run for run 180
* problem with air bubbles in tunnel pressure gauge lines
*
Angle of attack : 1.00 degrees
Tunnel pressure = 0.298 ftHgA = 1.76 psiA
Speed manometer = 1.544 ftHgW = 35.15 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.6568	1.3777	-0.0950	-0.0751	0.0038	0.1088	2.3376
	0.0067	0.0052	0.0160	0.1201	0.0057	0.0022	0.0059
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-12.63	8.44	-0.87	1.90	-0.02	0.00	12.51
Averages	-12.63	8.44	-0.87	1.90	-0.02	0.00	12.51

Tare Forces :

Lift = -0.87 lbs, CL = -0.003
Drag = 1.90 lbs, CD = 0.0063
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -12.63 psiG = 1.76 psiA
Pv = 8.44 Dpsi, Vt = 35.17 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 79.62 lbs, CL = 0.269
Drag = 4.56 lbs, CD = 0.0154
Moment = 1.26 ft-lbs, CM = 0.008

EOF YTS278.D03

yts279.off 24-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.443 ft Hg (14.40 psiA)
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0897	0.0301	-0.0612	-0.0090	0.0094	0.0096	-0.0253
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

YTS281.D03 3-FEB-88

YTS281.dat 24-JUN-87
* Data processed using YTS279.off offset file and YTS026.clb calibration file
* cav inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 25.50 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS281.D03 - Continued

Run number : 183
*
Angle of attack : 3.00 degrees
Tunnel pressure = 3.026 ftHgA = 17.84 psiA
Speed manometer = 4.385 ftHgW = 59.24 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.6246	3.8687	-3.7035	-0.5288	-2.5620	0.0047	0.8902
	0.0147	0.0164	0.0228	0.1445	0.0365	0.0073	0.0139
1	0.6161	3.8661	-3.7016	-0.5192	-2.5599	0.1057	-3.5353
	0.0216	0.0216	0.0250	0.1509	0.0456	0.0081	0.0230
2	0.6084	3.8675	-3.7168	-0.5206	-2.5717	0.2071	-3.1078
	0.0120	0.0153	0.0211	0.1375	0.0315	0.0080	0.0146
3	0.6122	3.8959	-3.7335	-0.5311	-2.5925	0.3086	-2.9450
	0.0153	0.0195	0.0207	0.1344	0.0456	0.0079	0.0175
4	0.5844	3.9262	-3.7605	-0.5379	-2.6155	0.4097	-2.8284
	0.0117	0.0201	0.0202	0.1145	0.0226	0.0078	0.0124
5	0.6424	3.8702	-3.6824	-0.5310	-2.5545	0.5113	-2.6048
	0.0143	0.0179	0.0250	0.1358	0.0325	0.0076	0.0202
6	0.6049	3.8968	-3.7304	-0.5192	-2.5868	0.6132	-2.5057
	0.0118	0.0194	0.0240	0.1456	0.0250	0.0076	0.0100
7	0.6215	3.8884	-3.7180	-0.5315	-2.5781	0.7129	-2.3845
	0.0152	0.0234	0.0225	0.1176	0.0282	0.0085	0.0111
8	0.6084	3.8843	-3.7246	-0.5325	-2.5853	0.8145	-2.2843
	0.0103	0.0170	0.0220	0.1289	0.0373	0.0075	0.0150
9	0.5968	3.8891	-3.7231	-0.5364	-2.5803	0.9162	-1.9835
	0.0116	0.0167	0.0225	0.1329	0.0327	0.0082	0.0135
10	0.6375	3.8535	-3.6906	-0.5265	-2.5450	1.0172	-1.4130
	0.0172	0.0191	0.0290	0.1239	0.0361	0.0075	0.0113
11	0.6419	3.8401	-3.6840	-0.5203	-2.5475	1.1191	-0.5087
	0.0105	0.0166	0.0212	0.1288	0.0326	0.0091	0.0115
12	0.5932	3.8834	-3.7239	-0.5227	-2.5838	1.2205	0.0166
	0.0118	0.0176	0.0211	0.1298	0.0313	0.0086	0.0110

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.50	23.80	437.03	12.53	28.68	0.00	4.58
1	3.46	23.78	436.81	12.31	28.66	1.00	-17.55
2	3.42	23.79	438.63	12.34	28.79	2.00	-15.41
3	3.44	23.97	440.63	12.59	29.02	3.00	-14.60
4	3.31	24.16	443.87	12.75	29.28	4.00	-14.02
5	3.59	23.81	434.50	12.59	28.60	5.00	-12.90
6	3.41	23.97	440.26	12.31	28.96	6.00	-12.40
7	3.49	23.92	438.77	12.60	28.86	7.00	-11.80
8	3.42	23.90	439.57	12.62	28.94	8.00	-11.30
9	3.37	23.93	439.38	12.71	28.88	9.00	-9.79
10	3.57	23.71	435.48	12.48	28.49	10.00	-6.94
11	3.59	23.62	434.69	12.33	28.52	11.00	-2.42
12	3.35	23.89	439.48	12.39	28.92	12.00	0.21
Averages	3.46	23.86	438.52	12.51	28.82	6.00	-9.56

YTS281.D03 Run 183 - Continued

Total Forces (including tare forces) :

Lift = 438.52 lbs, CL = 0.517
Drag = 12.51 lbs, CD = 0.0147
Moment = 28.82 ft-lbs, CM = 0.068

Tunnel Pressure & Velocity :

Pt = 3.46 psiG = 17.85 psiA
Pv = 23.86 Dpsi, Vt = 59.14 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.58	-0.195
1	0.030	-17.55	0.748
2	0.060	-15.41	0.656
3	0.110	-14.60	0.617
4	0.160	-14.02	0.588
5	0.260	-12.90	0.549
6	0.330	-12.40	0.524
7	0.450	-11.80	0.500
8	0.560	-11.30	0.479
9	0.680	-9.79	0.415
10	0.810	-6.94	0.297
11	0.900	-2.42	0.104
12	0.950	0.21	-0.009

*
EOR

YTS281.D03 - Continued

Run number : 268
* tare run for run 183
*
Angle of attack : 3.00 degrees
Tunnel pressure = 3.000 ftHgA = 17.68 psiA
Speed manometer = 4.441 ftHgW = 59.62 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.5823	3.9531	-0.0525	-0.1060	0.0099	0.1087	-0.6795
	0.0099	0.0157	0.0108	0.1623	0.0239	0.0023	0.0114
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.26	24.41	-6.44	3.16	-0.05	0.00	-2.57
Averages	3.26	24.41	-6.44	3.16	-0.05	0.00	-2.57

Tare Forces :

Lift = -6.44 lbs, CL = -0.007
Drag = 3.16 lbs, CD = 0.0036
Moment = -0.05 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

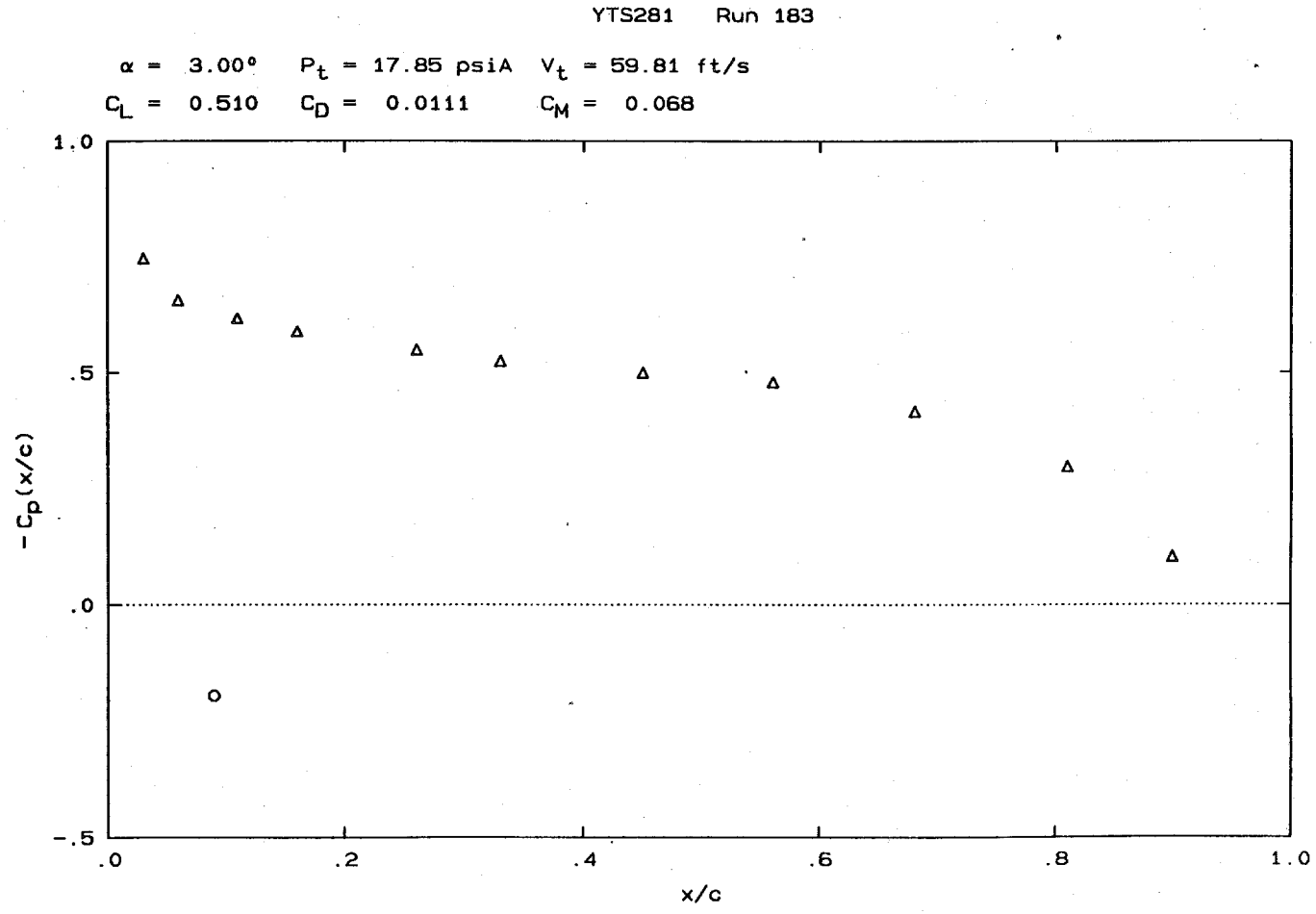
Pt = 3.26 psiG = 17.65 psiA
Pv = 24.41 Dpsi, Vt = 59.81 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 432.08 lbs, CL = 0.510
Drag = 9.35 lbs, CD = 0.0111
Moment = 28.78 ft-lbs, CM = 0.068

EOF YTS281.D03


YTS281 Run 183
α = 3.00° P_t = 17.85 psiA V_t = 59.81 ft/s
C_L = 0.510 C_D = 0.0111 C_M = 0.068
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS282.D03 3-FEB-88

YTS282.dat 24-JUN-87
* Data processed using YTS279.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 25.50 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS282.D03 - Continued

Run number : 184
*
Angle of attack : 3.00 degrees
Tunnel pressure = 2.689 ftHgA = 15.85 psiA
Speed manometer = 4.425 ftHgW = 59.51 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.2258	3.8817	-3.7416	-0.5297	-2.6168	0.0049	0.9014
	0.0120	0.0177	0.0231	0.1321	0.0291	0.0071	0.0091
1	0.2241	3.8990	-3.7466	-0.5253	-2.6382	0.1061	-3.2646
	0.0091	0.0196	0.0270	0.1339	0.0285	0.0079	0.0149
2	0.2415	3.8787	-3.7363	-0.5145	-2.6204	0.2070	-3.2183
	0.0105	0.0177	0.0211	0.1369	0.0271	0.0079	0.0133
3	0.2280	3.8927	-3.7581	-0.5328	-2.6377	0.3089	-3.1352
	0.0102	0.0187	0.0208	0.1573	0.0241	0.0080	0.0039
4	0.2051	3.8975	-3.7641	-0.5253	-2.6427	0.4097	-3.0286
	0.0105	0.0173	0.0188	0.1153	0.0340	0.0079	0.0138
5	0.2134	3.8989	-3.7659	-0.5159	-2.6464	0.5121	-2.6000
	0.0094	0.0199	0.0218	0.1313	0.0246	0.0079	0.0119
6	0.2112	3.9337	-3.7993	-0.5364	-2.6810	0.6137	-2.5184
	0.0099	0.0154	0.0230	0.1218	0.0286	0.0076	0.0115
7	0.2390	3.9101	-3.7636	-0.5274	-2.6446	0.7134	-2.4129
	0.0128	0.0229	0.0219	0.1382	0.0336	0.0084	0.0186
8	0.2848	3.8781	-3.7226	-0.5485	-2.6061	0.8145	-2.2886
	0.0156	0.0174	0.0277	0.1550	0.0282	0.0081	0.0190
9	0.2590	3.8897	-3.7407	-0.5343	-2.6235	0.9165	-1.9918
	0.0147	0.0195	0.0243	0.1441	0.0383	0.0081	0.0131
10	0.2599	3.8590	-3.7093	-0.5315	-2.5962	1.0174	-1.4007
	0.0123	0.0167	0.0217	0.1475	0.0358	0.0075	0.0110
11	0.2189	3.9042	-3.7553	-0.5465	-2.6466	1.1198	-0.5113
	0.0189	0.0272	0.0313	0.1368	0.0384	0.0090	0.0125
12	0.1889	3.9303	-3.8063	-0.5385	-2.6851	1.2214	0.0098
	0.0128	0.0177	0.0222	0.1209	0.0232	0.0082	0.0120

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.55	23.88	441.61	12.56	29.29	0.00	4.63
1	1.54	23.99	442.21	12.46	29.53	1.00	-16.20
2	1.62	23.86	440.98	12.20	29.33	2.00	-15.97
3	1.56	23.95	443.59	12.63	29.53	3.00	-15.55
4	1.45	23.98	444.31	12.45	29.58	4.00	-15.02
5	1.49	23.99	444.53	12.24	29.62	5.00	-12.87
6	1.48	24.20	448.54	12.72	30.01	6.00	-12.47
7	1.61	24.06	444.25	12.51	29.60	7.00	-11.94
8	1.84	23.86	439.33	13.00	29.17	8.00	-11.32
9	1.71	23.93	441.50	12.67	29.37	9.00	-9.83
10	1.72	23.74	437.73	12.60	29.06	10.00	-6.88
11	1.51	24.02	443.25	12.95	29.63	11.00	-2.43
12	1.37	24.18	449.38	12.77	30.06	12.00	0.18
Averages	1.57	23.97	443.30	12.60	29.53	6.00	-9.67

Total Forces (including tare forces) :

Lift	= 443.30 lbs,	CL =	0.520
Drag	= 12.60 lbs,	CD =	0.0148
Moment	= 29.53 ft-lbs,	CM =	0.069

Tunnel Pressure & Velocity :

Pt	= 1.57 psiG	=	15.96 psiA
Pv	= 23.97 Dpsi,	Vt =	59.27 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.63	-0.197
1	0.030	-16.20	0.684
2	0.060	-15.97	0.678
3	0.110	-15.55	0.658
4	0.160	-15.02	0.635
5	0.260	-12.87	0.544
6	0.330	-12.47	0.522
7	0.450	-11.94	0.503
8	0.560	-11.32	0.481
9	0.680	-9.83	0.416
10	0.810	-6.88	0.294
11	0.900	-2.43	0.103
12	0.950	0.18	-0.007

*
EOR

YTS282.D03 - Continued

Run number : 269
* tare run for run 184
*
Angle of attack : 3.00 degrees
Tunnel pressure = 2.654 ftHgA = 15.64 psiA
Speed manometer = 4.476 ftHgW = 59.85 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.2257	3.9068	-0.0523	-0.0854	0.0087	0.1087	-0.3311
	0.0225	0.0199	0.0113	0.1333	0.0192	0.0023	0.0273
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.51	24.12	-6.46	2.66	-0.03	0.00	-0.83
Averages	1.51	24.12	-6.46	2.67	-0.03	0.00	-0.83

Tare Forces :

Lift = -6.46 lbs, CL = -0.008
Drag = 2.67 lbs, CD = 0.0031
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

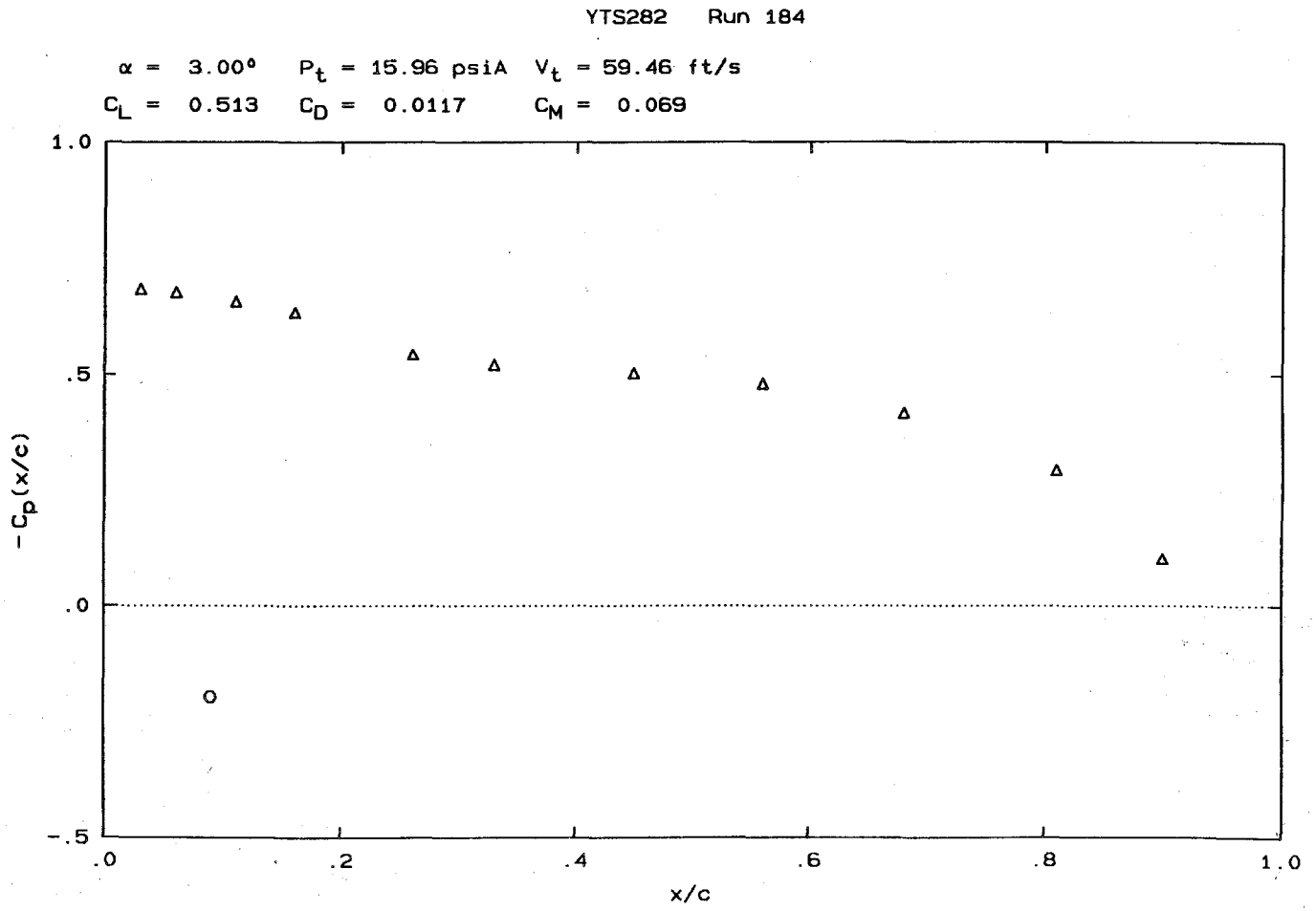
Pt = 1.51 psiG = 15.90 psiA
Pv = 24.12 Dpsi, Vt = 59.46 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 436.84 lbs, CL = 0.513
Drag = 9.93 lbs, CD = 0.0117
Moment = 29.50 ft-lbs, CM = 0.069

EOF YTS282.D03


YTS282 Run 184
α = 3.00° Pt = 15.96 psiA Vt = 59.46 ft/s
CL = 0.513 CD = 0.0117 CM = 0.069
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS284.D03 3-FEB-88

YTS284.dat 24-JUN-87
* Data processed using YTS279.off offset file and YTS026.clb calibration file
* fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 25.50 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS284.D03 - Continued

Run number : 186
*
Angle of attack : 3.00 degrees
Tunnel pressure = 4.251 ftHgA = 25.05 psiA
Speed manometer = 4.377 ftHgW = 59.19 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.0607	3.8989	-3.6892	-0.5152	-2.5091	0.0046	0.8457
	0.0130	0.0187	0.0212	0.1668	0.0263	0.0070	0.0129
1	2.0440	3.8929	-3.6783	-0.5377	-2.4926	0.1054	-3.4108
	0.0111	0.0178	0.0228	0.1680	0.0276	0.0081	0.0113
2	2.0912	3.8975	-3.6868	-0.5189	-2.4965	0.2066	-3.0851
	0.0143	0.0192	0.0229	0.1528	0.0246	0.0079	0.0137
3	2.0837	3.8989	-3.6929	-0.5189	-2.5081	0.3081	-2.9020
	0.0132	0.0188	0.0199	0.1538	0.0302	0.0075	0.0157
4	2.1035	3.8856	-3.6762	-0.5363	-2.4998	0.4094	-2.7739
	0.0125	0.0186	0.0201	0.1857	0.0260	0.0077	0.0146
5	2.1116	3.8863	-3.6722	-0.5234	-2.4941	0.5110	-2.5732
	0.0147	0.0198	0.0241	0.1650	0.0206	0.0082	0.0152
6	2.0373	3.9075	-3.6977	-0.5035	-2.5089	0.6127	-2.4735
	0.0110	0.0208	0.0192	0.1532	0.0223	0.0081	0.0130
7	2.0618	3.8712	-3.6637	-0.5318	-2.4961	0.7124	-2.3443
	0.0147	0.0180	0.0244	0.1804	0.0247	0.0083	0.0114
8	2.0486	3.8973	-3.6805	-0.5286	-2.5015	0.8140	-2.2646
	0.0112	0.0179	0.0233	0.1648	0.0313	0.0081	0.0144
9	2.0436	3.8983	-3.6907	-0.5296	-2.5104	0.9159	-1.9689
	0.0147	0.0173	0.0223	0.1721	0.0292	0.0080	0.0132
10	1.9955	3.9341	-3.7158	-0.5155	-2.5329	1.0176	-1.4092
	0.0144	0.0192	0.0156	0.1003	0.0190	0.0074	0.0133
11	2.0500	3.8827	-3.6826	-0.5281	-2.5022	1.1191	-0.5092
	0.0134	0.0196	0.0219	0.1825	0.0258	0.0087	0.0125
12	2.0336	3.9023	-3.6895	-0.5200	-2.5133	1.2204	0.0247
	0.0120	0.0186	0.0210	0.1630	0.0244	0.0084	0.0123

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	10.55	23.99	435.31	12.21	28.09	0.00	4.36
1	10.47	23.95	434.00	12.74	27.90	1.00	-16.93
2	10.70	23.98	435.02	12.30	27.95	2.00	-15.30
3	10.66	23.99	435.75	12.30	28.08	3.00	-14.38
4	10.76	23.90	433.75	12.71	27.98	4.00	-13.74
5	10.80	23.91	433.27	12.41	27.92	5.00	-12.74
6	10.44	24.04	436.33	11.94	28.09	6.00	-12.24
7	10.56	23.81	432.25	12.60	27.94	7.00	-11.60
8	10.49	23.98	434.26	12.53	28.00	8.00	-11.20
9	10.47	23.98	435.49	12.55	28.10	9.00	-9.72
10	10.23	24.20	438.50	12.23	28.36	10.00	-6.92
11	10.50	23.89	434.52	12.51	28.01	11.00	-2.42
12	10.42	24.01	435.34	12.33	28.14	12.00	0.25
Averages	10.54	23.97	435.03	12.42	28.05	6.00	-9.43

Total Forces (including tare forces) :

Lift = 435.03 lbs, CL = 0.511
Drag = 12.42 lbs, CD = 0.0146
Moment = 28.05 ft-lbs, CM = 0.066

Tunnel Pressure & Velocity :

Pt = 10.54 psiG = 24.93 psiA
Pv = 23.97 Dpsi, Vt = 59.27 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.36	-0.184
1	0.030	-16.93	0.716
2	0.060	-15.30	0.646
3	0.110	-14.38	0.608
4	0.160	-13.74	0.583
5	0.260	-12.74	0.540
6	0.330	-12.24	0.516
7	0.450	-11.60	0.493
8	0.560	-11.20	0.473
9	0.680	-9.72	0.411
10	0.810	-6.92	0.290
11	0.900	-2.42	0.103
12	0.950	0.25	-0.011

*
EOR

YTS284.D03 - Continued

Run number : 270
* tare run for run 186
*
Angle of attack : 3.00 degrees
Tunnel pressure = 4.130 ftHgA = 24.34 psiA
Speed manometer = 4.427 ftHgW = 59.53 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	1.9312	3.9446	-0.0541	-0.0882	0.0073	0.1086	-1.9990
	0.0133	0.0235	0.0115	0.1557	0.0200	0.0023	0.0193

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	9.88	24.35	-6.25	2.74	-0.02	0.00	-9.17
Averages	9.88	24.35	-6.25	2.74	-0.02	0.00	-9.17

Tare Forces :

Lift = -6.25 lbs, CL = -0.007
Drag = 2.74 lbs, CD = 0.0032
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

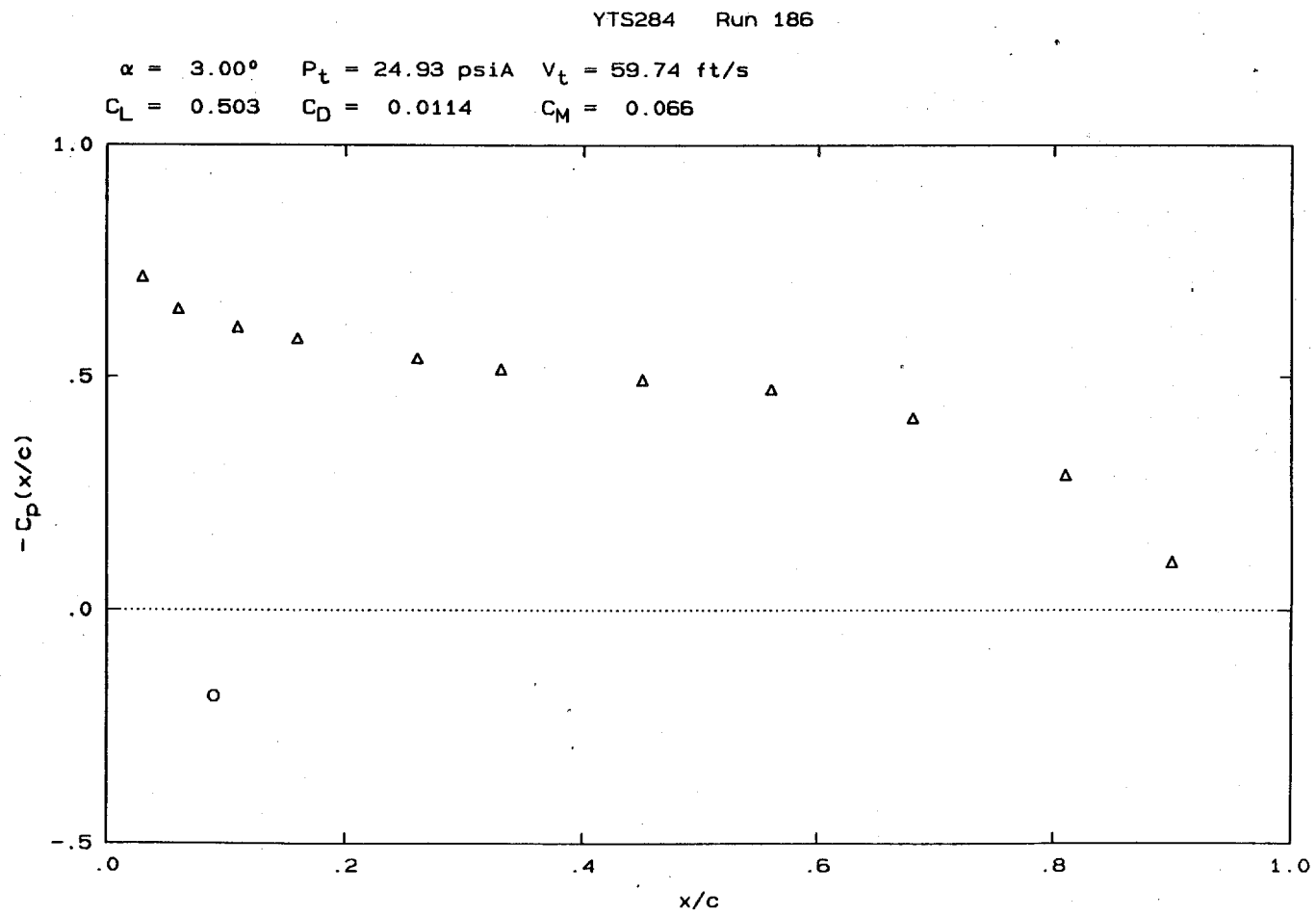
Pt = 9.88 psiG = 24.27 psiA
Pv = 24.35 Dpsi, Vt = 59.74 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 428.79 lbs, CL = 0.503
Drag = 9.68 lbs, CD = 0.0114
Moment = 28.04 ft-lbs, CM = 0.066

EOF YTS284.D03


YTS284 Run 186
α = 3.00° P_t = 24.93 psiA V_t = 59.74 ft/s
C_L = 0.503 C_D = 0.0114 C_M = 0.066
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS285.D03 3-FEB-88

YTS285.dat 24-JUN-87
* Data processed using YTS279.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 25.50 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS285.D03 - Continued

Run number : 187
*
Angle of attack : 3.00 degrees
Tunnel pressure = 0.663 ftHgA = 3.91 psiA
Speed manometer = 1.095 ftHgW = 29.60 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2286	0.9954	-0.9957	-0.1414	-0.6359	0.0095	0.1963
	0.0108	0.0093	0.0131	0.0206	0.0212	0.0077	0.0073
1	-2.2447	0.9967	-0.9995	-0.1446	-0.6412	0.1104	-0.8389
	0.0110	0.0093	0.0230	0.0354	0.0266	0.0074	0.0083
2	-2.2536	0.9990	-0.9981	-0.1432	-0.6386	0.2114	-0.7204
	0.0100	0.0094	0.0243	0.0387	0.0182	0.0078	0.0078
3	-2.2218	0.9941	-0.9938	-0.1458	-0.6345	0.3118	-0.8186
	0.0107	0.0091	0.0148	0.0179	0.0476	0.0079	0.0080
4	-2.2360	1.0024	-0.9949	-0.1447	-0.6390	0.4125	-0.8235
	0.0096	0.0094	0.0162	0.0175	0.0187	0.0079	0.0076
5	-2.2157	0.9974	-0.9884	-0.1436	-0.6315	0.5134	-0.8081
	0.0095	0.0091	0.0159	0.0192	0.0167	0.0082	0.0080
6	-2.2173	1.0015	-0.9952	-0.1426	-0.6399	0.6140	-0.7187
	0.0098	0.0093	0.0150	0.0213	0.0308	0.0074	0.0075
7	-2.2191	1.0005	-0.9953	-0.1454	-0.6326	0.7130	-0.6694
	0.0091	0.0096	0.0135	0.0229	0.0275	0.0084	0.0074
8	-2.2152	1.0011	-0.9918	-0.1422	-0.6341	0.8139	-0.6222
	0.0106	0.0092	0.0143	0.0213	0.0349	0.0083	0.0074
9	-2.2239	1.0048	-0.9987	-0.1458	-0.6358	0.9148	-0.5363
	0.0106	0.0092	0.0137	0.0197	0.0109	0.0081	0.0076
10	-2.2270	1.0099	-0.9993	-0.1408	-0.6426	1.0151	-0.4083
	0.0108	0.0091	0.0162	0.0201	0.0267	0.0078	0.0075
11	-2.2151	0.9989	-0.9964	-0.1425	-0.6371	1.1165	-0.1808
	0.0109	0.0090	0.0126	0.0190	0.0250	0.0089	0.0076
12	-2.2161	0.9956	-1.0028	-0.1434	-0.6412	1.2170	-0.0533
	0.0094	0.0099	0.0129	0.0164	0.0160	0.0081	0.0075

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.49	5.98	112.13	3.18	7.19	0.00	1.11
1	-10.57	5.99	112.59	3.25	7.25	1.00	-4.07
2	-10.62	6.01	112.42	3.22	7.22	2.00	-3.48
3	-10.46	5.98	111.90	3.28	7.18	3.00	-3.97
4	-10.53	6.03	112.03	3.26	7.23	4.00	-3.99
5	-10.43	6.00	111.25	3.23	7.14	5.00	-3.91
6	-10.44	6.02	112.07	3.21	7.24	6.00	-3.47
7	-10.45	6.02	112.08	3.27	7.16	7.00	-3.22
8	-10.43	6.02	111.66	3.20	7.17	8.00	-2.98
9	-10.47	6.04	112.49	3.28	7.19	9.00	-2.55
10	-10.49	6.07	112.56	3.17	7.27	10.00	-1.92
11	-10.43	6.01	112.22	3.20	7.21	11.00	-0.78
12	-10.43	5.99	112.98	3.22	7.25	12.00	-0.14
Averages	-10.48	6.01	112.22	3.23	7.21	6.00	-2.57

Total Forces (including tare forces) :

Lift	= 112.22 lbs,	CL =	0.525
Drag	= 3.23 lbs,	CD =	0.0151
Moment	= 7.21 ft-lbs,	CM =	0.067

Tunnel Pressure & Velocity :

Pt	= -10.48 psiG	=	3.91 psiA
Pv	= 6.01 Dpsi,	Vt =	29.68 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	1.11	-0.188
1	0.030	-4.07	0.688
2	0.060	-3.48	0.586
3	0.110	-3.97	0.672
4	0.160	-3.99	0.671
5	0.260	-3.91	0.661
6	0.330	-3.47	0.583
7	0.450	-3.22	0.542
8	0.560	-2.98	0.502
9	0.680	-2.55	0.428
10	0.810	-1.92	0.319
11	0.900	-0.78	0.131
12	0.950	-0.14	0.024

*
EOR

YTS285.D03 - Continued

Run number : 271
* tare run for run 187
*
Angle of attack : 3.00 degrees
Tunnel pressure = 0.629 ftHgA = 3.71 psiA
Speed manometer = 1.103 ftHgW = 29.71 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.2640	0.9919	-0.0844	-0.0560	0.0036	0.1087	1.9898
	0.0095	0.0039	0.0059	0.0556	0.0035	0.0022	0.0060
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-10.70	6.05	-2.07	1.38	-0.02	0.00	10.77
Averages	-10.70	6.05	-2.08	1.38	-0.02	0.00	10.77

Tare Forces :

Lift = -2.08 lbs, CL = -0.010
Drag = 1.38 lbs, CD = 0.0064
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -10.70 psiG = 3.69 psiA
Pv = 6.05 Dpsi, Vt = 29.77 ft/s

*
EOR

Model Forces (excluding tare forces) :

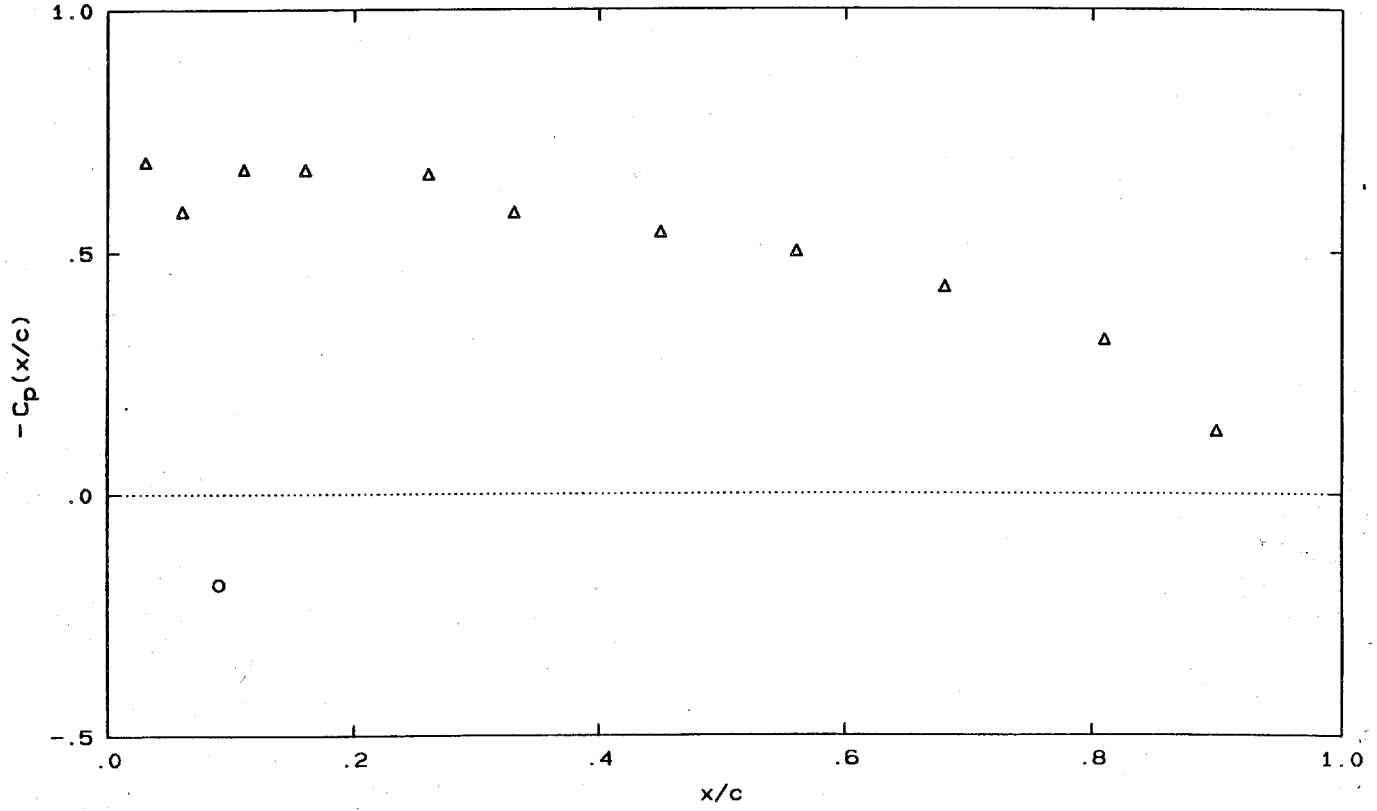
Lift = 110.14 lbs, CL = 0.516
Drag = 1.85 lbs, CD = 0.0087
Moment = 7.19 ft-lbs, CM = 0.067

EOF YTS285.D03

YTS285 Run 187

α = 3.00° P_t = 3.91 psiA V_t = 29.77 ft/s

C_L = 0.516 C_D = 0.0087 C_M = 0.067



YTS286.D03 3-FEB-88

YTS286.dat 24-JUN-87
* Data processed using YTS279.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 25.50 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS286.D03 - Continued

Run number : 188
* cavity induced by the tap hole
*
Angle of attack : 3.00 degrees
Tunnel pressure = 0.525 ftHgA = 3.09 psiA
Speed manometer = 1.112 ftHgW = 29.84 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.3819	1.0082	-0.9831	-0.2178	-0.4642	0.3118	-0.6240
	0.0106	0.0093	0.0718	0.0880	0.3065	0.0080	0.0069

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.25	6.06	110.60	4.94	5.27	0.00	-2.99
Averages	-11.25	6.06	110.63	4.95	5.27	0.00	-2.99

YTS286.D03 Run 188 - Continued

Total Forces (including tare forces) :

Lift	= 110.63 lbs,	CL =	0.513
Drag	= 4.95 lbs,	CD =	0.0229
Moment	= 5.27 ft-lbs,	CM =	0.049

Tunnel Pressure & Velocity :

Pt	= -11.25 psiG	=	3.15 psiA
Pv	= 6.06 Dpsi,	Vt =	29.81 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-2.99	0.500

*
EOR

YTS286.D03 - Continued

Run number : 272
* tare run for run 188
*
Angle of attack : 3.00 degrees
Tunnel pressure = 0.407 ftHgA = 2.40 psiA
Speed manometer = 1.126 ftHgW = 30.02 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-2.5202	1.0058	-0.0905	-0.0574	0.0050	0.1086	2.2186
	0.0088	0.0053	0.0154	0.1675	0.0066	0.0023	0.0039

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-11.96	6.13	-1.34	1.41	-0.03	0.00	11.92
Averages	-11.96	6.13	-1.35	1.41	-0.03	0.00	11.92

Tare Forces :

Lift = -1.35 lbs, CL = -0.006
Drag = 1.41 lbs, CD = 0.0065
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -11.96 psiG = 2.43 psiA
Pv = 6.13 Dpsi, Vt = 29.98 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 109.29 lbs, CL = 0.507
Drag = 3.53 lbs, CD = 0.0165
Moment = 5.23 ft-lbs, CM = 0.049

EOF YTS286.D03

yts289.off 25-JUN-87
* Day's offset calibration coefficients
* 16 records [1 rec = 128 conv./ch] per point
* File offsets at ambient pressure
* Slope in Volts/psiG

Ambient pressure : 2.444 ft Hg
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

File offsets (A)

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
mean	-0.0875	0.0246	-0.0611	-0.0055	0.0076	0.0077	-0.0302
slope	0.	0.	-0.00024	0.0014	0.00022	0.	0.

YTS291.D03 3-FEB-88

YTS291.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS291.D03 - Continued

Run number : 193
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.644 ftHgA = 9.69 psiA
Speed manometer = 1.970 ftHgW = 39.71 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.0696	1.7483	-2.0126	-0.2810	-1.5686	0.0078	0.5573
	0.0054	0.0062	0.0144	0.0355	0.0163	0.0019	0.0030
1	-1.0620	1.7424	-2.0134	-0.2756	-1.5689	0.1091	-1.8928
	0.0052	0.0054	0.0159	0.0368	0.0159	0.0023	0.0061
2	-1.0702	1.7487	-2.0229	-0.2814	-1.5773	0.2098	-1.8823
	0.0053	0.0045	0.0145	0.0361	0.0163	0.0023	0.0056
3	-1.0616	1.7368	-1.9970	-0.2719	-1.5554	0.3104	-1.8840
	0.0054	0.0057	0.0166	0.0398	0.0225	0.0023	0.0012
4	-1.0670	1.7489	-2.0005	-0.2782	-1.5602	0.4110	-1.4575
	0.0053	0.0047	0.0211	0.0383	0.0149	0.0021	0.0059
5	-1.0474	1.7348	-1.9943	-0.2792	-1.5517	0.5121	-1.3340
	0.0041	0.0070	0.0166	0.0415	0.0229	0.0023	0.0027
6	-1.0678	1.7469	-2.0132	-0.2733	-1.5781	0.6130	-1.2703
	0.0052	0.0052	0.0162	0.0353	0.0245	0.0018	0.0052
7	-1.0587	1.7387	-2.0080	-0.2736	-1.5632	0.7115	-1.1995
	0.0034	0.0058	0.0163	0.0364	0.0166	0.0028	0.0042
8	-1.0688	1.7462	-2.0080	-0.2810	-1.5685	0.8124	-1.1227
	0.0056	0.0057	0.0162	0.0365	0.0357	0.0035	0.0055
9	-1.0491	1.7468	-2.0068	-0.2803	-1.5616	0.9135	-0.9617
	0.0053	0.0050	0.0163	0.0396	0.0261	0.0028	0.0054
10	-1.0624	1.7572	-2.0172	-0.2826	-1.5786	1.0139	-0.6870
	0.0064	0.0072	0.0182	0.0441	0.0216	0.0005	0.0042
11	-1.0555	1.7542	-2.0170	-0.2783	-1.5797	1.1149	-0.2731
	0.0030	0.0068	0.0159	0.0388	0.0156	0.0047	0.0031
12	-1.0667	1.7526	-2.0218	-0.2806	-1.5791	1.2156	-0.0396
	0.0055	0.0068	0.0149	0.0412	0.0162	0.0023	0.0029

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.82	10.69	234.23	6.60	17.58	0.00	2.94
1	-4.78	10.65	234.32	6.47	17.59	1.00	-9.31
2	-4.82	10.69	235.46	6.61	17.68	2.00	-9.26
3	-4.78	10.62	232.35	6.39	17.44	3.00	-9.27
4	-4.81	10.69	232.77	6.54	17.49	4.00	-7.14
5	-4.71	10.60	232.03	6.56	17.40	5.00	-6.52
6	-4.81	10.68	234.30	6.42	17.69	6.00	-6.20
7	-4.76	10.63	233.68	6.42	17.52	7.00	-5.85
8	-4.81	10.67	233.67	6.60	17.58	8.00	-5.46
9	-4.72	10.68	233.53	6.58	17.51	9.00	-4.66
10	-4.78	10.74	234.78	6.64	17.70	10.00	-3.28
11	-4.75	10.72	234.76	6.54	17.71	11.00	-1.21
12	-4.80	10.71	235.33	6.59	17.70	12.00	-0.05
Averages	-4.78	10.67	234.01	6.54	17.59	6.00	-5.02

Total Forces (including tare forces) :

Lift	= 234.01 lbs,	CL =	0.617
Drag	= 6.54 lbs,	CD =	0.0172
Moment	= 17.59 ft-lbs,	CM =	0.093

Tunnel Pressure & Velocity :

Pt	= -4.78 psiG	=	9.62 psiA
Pv	= 10.67 Dpsi,	Vt =	39.55 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.94	-0.278
1	0.030	-9.31	0.886
2	0.060	-9.26	0.878
3	0.110	-9.27	0.885
4	0.160	-7.14	0.676
5	0.260	-6.52	0.623
6	0.330	-6.20	0.588
7	0.450	-5.85	0.557
8	0.560	-5.46	0.519
9	0.680	-4.66	0.442
10	0.810	-3.28	0.310
11	0.900	-1.21	0.115
12	0.950	-0.05	0.004

*
EOR

YTS291.D03 - Continued

Run number : 274
* tare run for run 193
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.617 ftHgA = 9.53 psiA
Speed manometer = 1.978 ftHgW = 39.79 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.0793	1.7626	-0.0725	-0.0622	0.0061	0.1087	0.8827
	0.0059	0.0088	0.0077	0.0364	0.0051	0.0022	0.0053
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-4.89	10.83	-3.64	1.68	-0.03	0.00	5.24
Averages	-4.89	10.83	-3.64	1.68	-0.03	0.00	5.24

Tare Forces :

Lift = -3.64 lbs, CL = -0.009
Drag = 1.68 lbs, CD = 0.0044
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

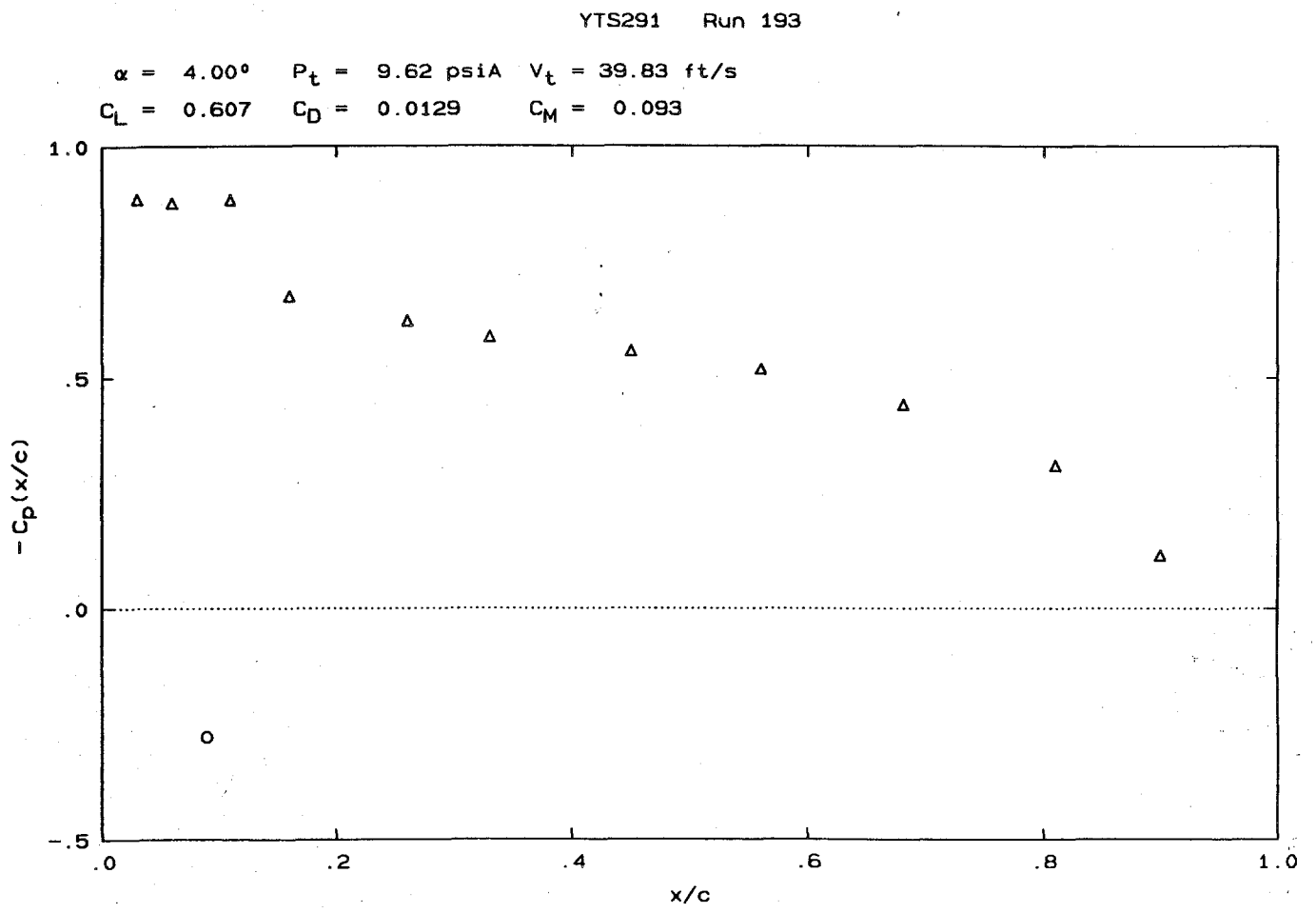
Pt = -4.89 psiG = 9.50 psiA
Pv = 10.83 Dpsi, Vt = 39.83 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 230.37 lbs, CL = 0.607
Drag = 4.85 lbs, CD = 0.0129
Moment = 17.55 ft-lbs, CM = 0.093

EOF YTS291.D03


YTS291 Run 193
α = 4.00° Pt = 9.62 psiA Vt = 39.83 ft/s
CL = 0.607 CD = 0.0129 CM = 0.093
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS292.D03 3-FEB-88

YTS292.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS292.D03 - Continued

Run number : 194
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.533 ftHgA = 9.04 psiA
Speed manometer = 1.943 ftHgW = 39.43 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1931	1.7464	-2.0517	-0.2863	-1.6180	0.0079	0.5493
	0.0079	0.0060	0.0274	0.0503	0.0302	0.0020	0.0053
1	-1.1913	1.7591	-2.0549	-0.2870	-1.6230	0.1092	-1.7933
	0.0063	0.0075	0.0206	0.0417	0.0248	0.0022	0.0050
2	-1.1982	1.7548	-2.0603	-0.2889	-1.6227	0.2100	-1.7524
	0.0066	0.0068	0.0171	0.0429	0.0218	0.0023	0.0082
3	-1.1773	1.7466	-2.0308	-0.2772	-1.5995	0.3105	-1.7665
	0.0030	0.0049	0.0145	0.0394	0.0387	0.0022	0.0063
4	-1.1840	1.7489	-2.0288	-0.2783	-1.5964	0.4111	-1.7694
	0.0061	0.0043	0.0208	0.0486	0.0280	0.0021	0.0070
5	-1.1978	1.7522	-2.0476	-0.2895	-1.6072	0.5121	-1.7639
	0.0057	0.0066	0.0236	0.0465	0.0255	0.0024	0.0056
6	-1.1811	1.7434	-2.0331	-0.2806	-1.6011	0.6131	-0.8908
	0.0050	0.0063	0.0147	0.0396	0.0186	0.0018	0.0608
7	-1.1805	1.7408	-2.0331	-0.2870	-1.5953	0.7115	-1.1492
	0.0045	0.0050	0.0151	0.0298	0.0235	0.0029	0.0052
8	-1.2030	1.7599	-2.0671	-0.2879	-1.6346	0.8126	-1.1136
	0.0030	0.0074	0.0188	0.0453	0.0400	0.0033	0.0055
9	-1.1776	1.7560	-2.0469	-0.2894	-1.6106	0.9136	-0.9635
	0.0042	0.0072	0.0206	0.0490	0.0465	0.0026	0.0050
10	-1.1761	1.7500	-2.0512	-0.2852	-1.6110	1.0140	-0.6943
	0.0032	0.0045	0.0166	0.0422	0.0194	0.0005	0.0031
11	-1.1690	1.7454	-2.0437	-0.2811	-1.6084	1.1150	-0.2854
	0.0024	0.0060	0.0152	0.0368	0.0233	0.0047	0.0032
12	-1.1850	1.7601	-2.0565	-0.2879	-1.6275	1.2155	-0.0500
	0.0061	0.0075	0.0195	0.0405	0.0252	0.0022	0.0025

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.42	10.68	238.93	6.72	18.14	0.00	2.90
1	-5.42	10.75	239.31	6.74	18.19	1.00	-8.82
2	-5.45	10.73	239.96	6.78	18.19	2.00	-8.61
3	-5.35	10.68	236.42	6.51	17.93	3.00	-8.68
4	-5.38	10.69	236.18	6.54	17.89	4.00	-8.70
5	-5.45	10.71	238.43	6.80	18.01	5.00	-8.67
6	-5.37	10.66	236.69	6.59	17.95	6.00	-4.30
7	-5.36	10.64	236.69	6.74	17.88	7.00	-5.59
8	-5.47	10.76	240.78	6.76	18.32	8.00	-5.42
9	-5.35	10.73	238.35	6.80	18.05	9.00	-4.67
10	-5.34	10.70	238.87	6.70	18.06	10.00	-3.32
11	-5.31	10.67	237.97	6.60	18.03	11.00	-1.28
12	-5.38	10.76	239.50	6.76	18.24	12.00	-0.10
Averages	-5.39	10.70	238.38	6.70	18.07	6.00	-5.02

Total Forces (including tare forces) :

Lift	= 238.38 lbs,	CL =	0.627
Drag	= 6.70 lbs,	CD =	0.0176
Moment	= 18.07 ft-lbs,	CM =	0.095

Tunnel Pressure & Velocity :

Pt	= -5.39 psiG	=	9.02 psiA
Pv	= 10.70 Dpsi,	Vt =	39.61 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.90	-0.275
1	0.030	-8.82	0.831
2	0.060	-8.61	0.813
3	0.110	-8.68	0.824
4	0.160	-8.70	0.824
5	0.260	-8.67	0.820
6	0.330	-4.30	0.409
7	0.450	-5.59	0.533
8	0.560	-5.42	0.510
9	0.680	-4.67	0.440
10	0.810	-3.32	0.314
11	0.900	-1.28	0.121
12	0.950	-0.10	0.009

*
EOR

YTS292.D03 - Continued

Run number : 275
* tare run for run 194
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.518 ftHgA = 8.95 psiA
Speed manometer = 1.984 ftHgW = 39.85 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.1907	1.7593	-0.0707	-0.0638	0.0062	0.1087	0.9927
	0.0058	0.0085	0.0073	0.0381	0.0069	0.0023	0.0063
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.44	10.81	-3.86	1.72	-0.04	0.00	5.79
Averages	-5.44	10.81	-3.86	1.72	-0.04	0.00	5.79

Tare Forces :

Lift = -3.86 lbs, CL = -0.010
Drag = 1.72 lbs, CD = 0.0045
Moment = -0.04 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

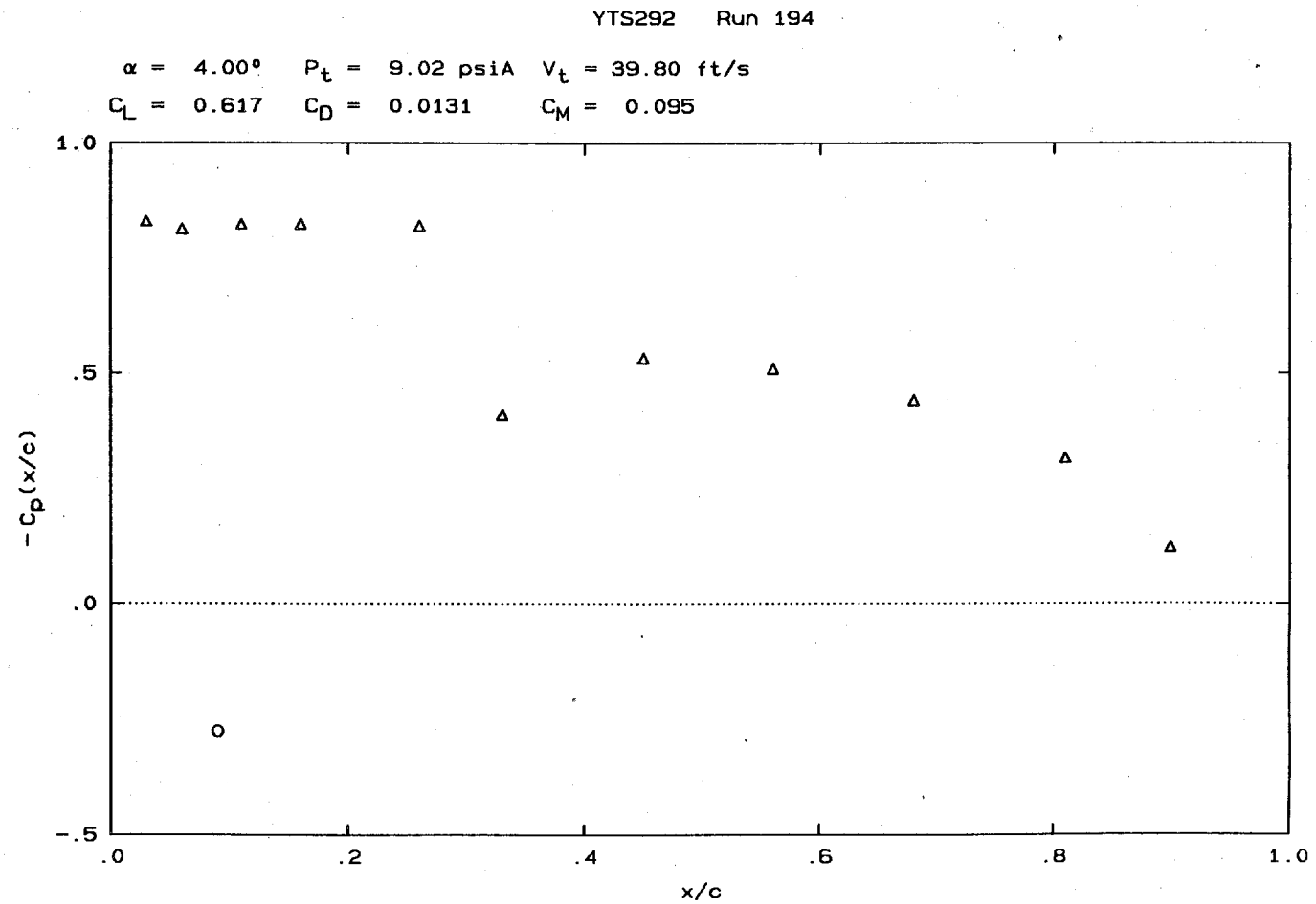
Pt = -5.44 psiG = 8.95 psiA
Pv = 10.81 Dpsi, Vt = 39.80 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 234.52 lbs, CL = 0.617
Drag = 4.98 lbs, CD = 0.0131
Moment = 18.04 ft-lbs, CM = 0.095

EOF YTS292.D03


YTS292 Run 194
α = 4.00° Pt = 9.02 psiA Vt = 39.80 ft/s
CL = 0.617 CD = 0.0131 CM = 0.095
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS293.D03 3-FEB-88

YTS293.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS293.D03 - Continued

Run number : 195
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.465 ftHgA = 8.64 psiA
Speed manometer = 1.945 ftHgW = 39.46 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2816	1.7451	-2.1507	-0.2924	-1.6813	0.0079	0.5653
	0.0051	0.0063	0.0215	0.0441	0.0811	0.0019	0.0029
1	-1.2641	1.7340	-2.1224	-0.2895	-1.6665	0.1091	-1.7074
	0.0054	0.0059	0.0183	0.0484	0.0434	0.0023	0.0014
2	-1.2719	1.7415	-2.1423	-0.2944	-1.6667	0.2099	-1.6833
	0.0054	0.0058	0.0230	0.0547	0.0323	0.0023	0.0073
3	-1.2623	1.7325	-2.0955	-0.2813	-1.6485	0.3104	-1.6877
	0.0063	0.0066	0.0199	0.0398	0.0247	0.0022	0.0066
4	-1.2726	1.7384	-2.1302	-0.2904	-1.6698	0.4111	-1.6952
	0.0053	0.0059	0.0189	0.0454	0.0421	0.0021	0.0049
5	-1.2698	1.7463	-2.1640	-0.2970	-1.6921	0.5121	-1.7020
	0.0066	0.0050	0.0222	0.0397	0.0351	0.0024	0.0067
6	-1.2804	1.7452	-2.1515	-0.2999	-1.6803	0.6131	-1.6966
	0.0046	0.0058	0.0195	0.0445	0.0184	0.0017	0.0056
7	-1.2628	1.7455	-2.1491	-0.2950	-1.6827	0.7114	-1.6961
	0.0057	0.0054	0.0227	0.0365	0.0224	0.0029	0.0064
8	-1.2446	1.7459	-2.1160	-0.2914	-1.6698	0.8123	-0.9002
	0.0015	0.0053	0.0182	0.0399	0.0380	0.0034	0.0234
9	-1.2630	1.7379	-2.1411	-0.2917	-1.6815	0.9135	-0.8803
	0.0065	0.0061	0.0191	0.0393	0.0321	0.0027	0.0146
10	-1.2636	1.7416	-2.1413	-0.2979	-1.6798	1.0139	-0.6761
	0.0066	0.0058	0.0221	0.0430	0.0319	0.0000	0.0068
11	-1.2714	1.7457	-2.1473	-0.2943	-1.6873	1.1148	-0.2870
	0.0067	0.0049	0.0260	0.0549	0.0489	0.0047	0.0050
12	-1.2645	1.7494	-2.1694	-0.3021	-1.6919	1.2155	-0.0586
	0.0055	0.0052	0.0177	0.0434	0.0385	0.0021	0.0026

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.86	10.67	250.83	6.85	18.84	0.00	2.98
1	-5.77	10.60	247.43	6.79	18.68	1.00	-8.39
2	-5.81	10.64	249.82	6.90	18.68	2.00	-8.27
3	-5.76	10.59	244.19	6.60	18.48	3.00	-8.29
4	-5.81	10.63	248.36	6.81	18.71	4.00	-8.32
5	-5.80	10.67	252.42	6.96	18.96	5.00	-8.36
6	-5.85	10.67	250.92	7.03	18.83	6.00	-8.33
7	-5.77	10.67	250.63	6.91	18.86	7.00	-8.33
8	-5.68	10.67	246.66	6.84	18.71	8.00	-4.35
9	-5.77	10.62	249.67	6.84	18.84	9.00	-4.25
10	-5.77	10.65	249.70	6.98	18.82	10.00	-3.23
11	-5.81	10.67	250.42	6.90	18.91	11.00	-1.28
12	-5.77	10.69	253.07	7.08	18.96	12.00	-0.14
Averages	-5.79	10.65	249.62	6.89	18.80	6.00	-5.27

Total Forces (including tare forces) :

Lift = 249.62 lbs, CL = 0.660
Drag = 6.89 lbs, CD = 0.0182
Moment = 18.80 ft-lbs, CM = 0.099

Tunnel Pressure & Velocity :

Pt = -5.79 psiG = 8.62 psiA
Pv = 10.65 Dpsi, Vt = 39.51 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.98	-0.283
1	0.030	-8.39	0.802
2	0.060	-8.27	0.787
3	0.110	-8.29	0.793
4	0.160	-8.32	0.794
5	0.260	-8.36	0.793
6	0.330	-8.33	0.791
7	0.450	-8.33	0.791
8	0.560	-4.35	0.413
9	0.680	-4.25	0.405
10	0.810	-3.23	0.307
11	0.900	-1.28	0.122
12	0.950	-0.14	0.013

*
EOR

YTS293.D03 - Continued

Run number : 276
* tare run for run 195
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.434 ftHgA = 8.45 psiA
Speed manometer = 1.972 ftHgW = 39.72 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.2764	1.7404	-0.0706	-0.0630	0.0065	0.1088	1.0764
	0.0058	0.0079	0.0096	0.0391	0.0066	0.0022	0.0060
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-5.86	10.69	-3.87	1.70	-0.04	0.00	6.21
Averages	-5.86	10.69	-3.87	1.70	-0.04	0.00	6.21

Tare Forces :

Lift = -3.87 lbs, CL = -0.010
Drag = 1.70 lbs, CD = 0.0045
Moment = -0.04 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -5.86 psiG = 8.53 psiA
Pv = 10.69 Dpsi, Vt = 39.58 ft/s

*
EOR

Model Forces (excluding tare forces) :

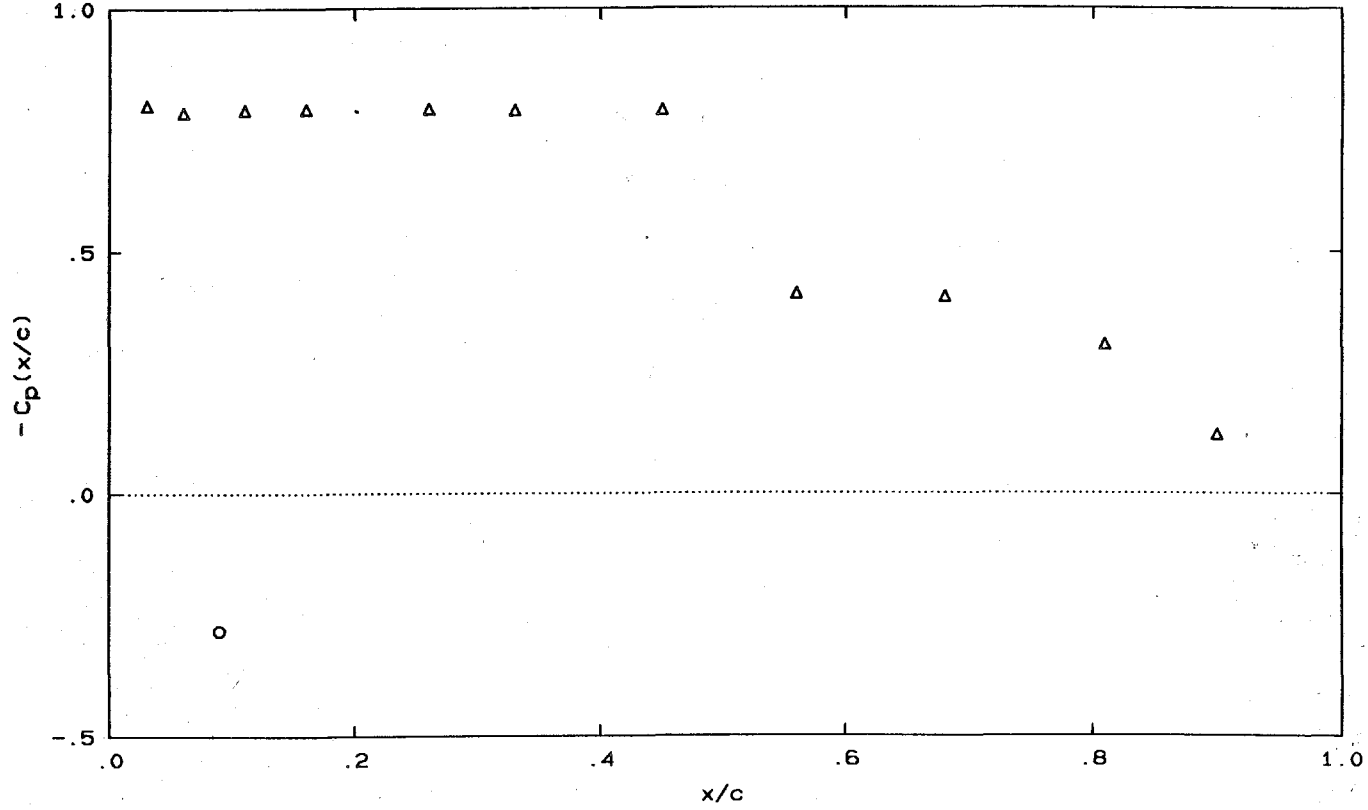
Lift = 245.75 lbs, CL = 0.649
Drag = 5.19 lbs, CD = 0.0137
Moment = 18.76 ft-lbs, CM = 0.099

EOF YTS293.D03

YTS293 Run 195

α = 4.00° P_t = 8.62 psiA V_t = 39.58 ft/s

C_L = 0.649 C_D = 0.0137 C_M = 0.099



YTS294.D03 3-FEB-88

YTS294.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS294.D03 - Continued

Run number : 196
* 60 % cavity
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.413 ftHgA = 8.33 psiA
Speed manometer = 1.960 ftHgW = 39.61 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.3243	1.7483	-2.2082	-0.3175	-1.6665	0.0078	0.5698
	0.0007	0.0085	0.0246	0.0461	0.0306	0.0019	0.0031
1	-1.3464	1.7675	-2.2782	-0.3648	-1.5968	0.1091	-1.6767
	0.0062	0.0059	0.0367	0.0572	0.0874	0.0022	0.0069
2	-1.3106	1.7645	-2.2339	-0.3227	-1.6774	0.2099	-1.6797
	0.0055	0.0065	0.0267	0.0478	0.0607	0.0023	0.0069
3	-1.3151	1.7443	-2.1960	-0.3140	-1.6761	0.3104	-1.6569
	0.0060	0.0050	0.0320	0.0459	0.0277	0.0023	0.0062
4	-1.3280	1.7540	-2.2260	-0.3308	-1.6628	0.4110	-1.6547
	0.0018	0.0067	0.0228	0.0478	0.0511	0.0020	0.0037
5	-1.3273	1.7592	-2.2348	-0.3349	-1.6471	0.5121	-1.6556
	0.0025	0.0075	0.0267	0.0508	0.0870	0.0024	0.0066
6	-1.3227	1.7519	-2.2107	-0.3224	-1.6683	0.6131	-1.6595
	0.0009	0.0054	0.0210	0.0403	0.0192	0.0018	0.0055
7	-1.3254	1.7649	-2.2681	-0.3519	-1.6415	0.7114	-1.6514
	0.0031	0.0059	0.0323	0.0399	0.0774	0.0028	0.0031
8	-1.3098	1.7491	-2.2002	-0.3190	-1.6792	0.8125	-1.6240
	0.0055	0.0044	0.0195	0.0540	0.0255	0.0034	0.0068
9	-1.3180	1.7482	-2.2077	-0.3161	-1.6799	0.9134	-0.5107
	0.0045	0.0049	0.0258	0.0477	0.0505	0.0026	0.0396
10	-1.3257	1.7561	-2.2411	-0.3438	-1.6544	1.0139	-0.5323
	0.0049	0.0074	0.0407	0.0505	0.0448	0.0006	0.0631
11	-1.3195	1.7491	-2.2157	-0.3196	-1.6695	1.1149	-0.2486
	0.0040	0.0053	0.0241	0.0372	0.0309	0.0047	0.0119
12	-1.3233	1.7482	-2.2141	-0.3209	-1.6690	1.2155	-0.0396
	0.0010	0.0053	0.0259	0.0560	0.0729	0.0022	0.0034

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-6.07	10.69	257.73	7.43	18.67	0.00	3.00
1	-6.18	10.81	266.13	8.51	17.88	1.00	-8.23
2	-6.00	10.79	260.82	7.55	18.79	2.00	-8.25
3	-6.02	10.66	256.27	7.35	18.78	3.00	-8.13
4	-6.09	10.72	259.87	7.73	18.63	4.00	-8.12
5	-6.08	10.75	260.92	7.83	18.45	5.00	-8.13
6	-6.06	10.71	258.03	7.54	18.69	6.00	-8.15
7	-6.07	10.79	264.92	8.22	18.39	7.00	-8.11
8	-6.00	10.69	256.77	7.47	18.81	8.00	-7.97
9	-6.04	10.69	257.67	7.40	18.82	9.00	-2.40
10	-6.07	10.74	261.68	8.03	18.53	10.00	-2.51
11	-6.04	10.69	258.63	7.47	18.70	11.00	-1.09
12	-6.06	10.69	258.44	7.51	18.70	12.00	-0.05
Averages	-6.06	10.72	259.91	7.70	18.61	6.00	-5.24

YTS294.D03 Run 196 - Continued

Total Forces (including tare forces) :

Lift = 259.91 lbs, CL = 0.682
Drag = 7.70 lbs, CD = 0.0202
Moment = 18.61 ft-lbs, CM = 0.098

Tunnel Pressure & Velocity :

Pt = -6.06 psiG = 8.34 psiA
Pv = 10.72 Dpsi, Vt = 39.64 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.00	-0.284
1	0.030	-8.23	0.772
2	0.060	-8.25	0.775
3	0.110	-8.13	0.773
4	0.160	-8.12	0.768
5	0.260	-8.13	0.766
6	0.330	-8.15	0.771
7	0.450	-8.11	0.761
8	0.560	-7.97	0.755
9	0.680	-2.40	0.228
10	0.810	-2.51	0.237
11	0.900	-1.09	0.103
12	0.950	-0.05	0.004

*
EOR

YTS294.D03 - Continued

Run number : 277
* tare run for run 196
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.394 ftHgA = 8.22 psiA
Speed manometer = 1.990 ftHgW = 39.91 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.3426	1.7730	-0.0702	-0.0760	0.0070	0.1087	1.1414
	0.0060	0.0132	0.0133	0.0655	0.0061	0.0023	0.0106
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-6.18	10.89	-3.92	2.01	-0.04	0.00	6.53
Averages	-6.18	10.89	-3.92	2.01	-0.04	0.00	6.53

Tare Forces :

Lift = -3.92 lbs, CL = -0.010
Drag = 2.01 lbs, CD = 0.0052
Moment = -0.04 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

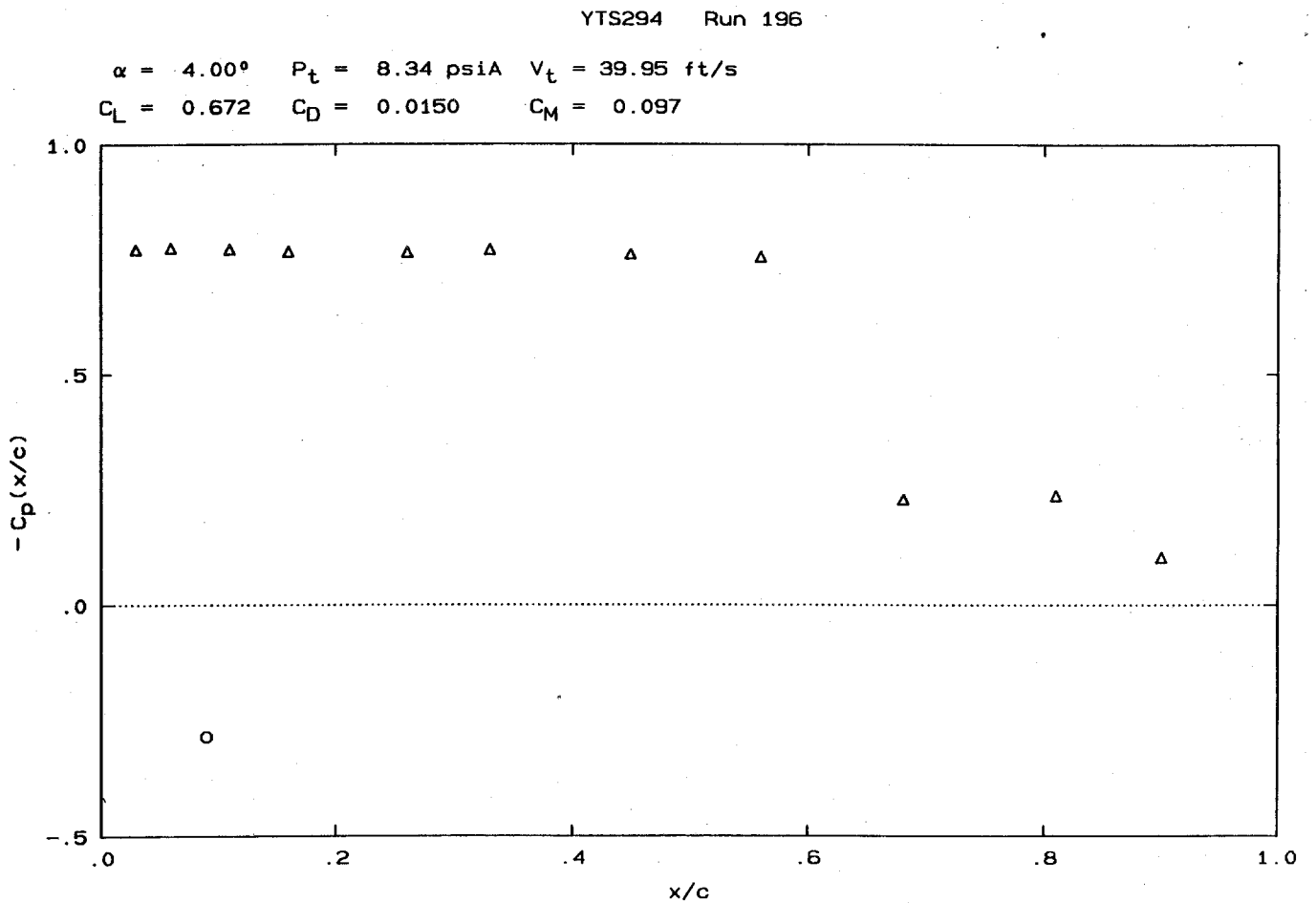
Pt = -6.18 psiG = 8.21 psiA
Pv = 10.89 Dpsi, Vt = 39.95 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 255.98 lbs, CL = 0.672
Drag = 5.69 lbs, CD = 0.0150
Moment = 18.57 ft-lbs, CM = 0.097

EOF YTS294.D03


YTS294 Run 196
α = 4.00° Pt = 8.34 psiA Vt = 39.95 ft/s
CL = 0.672 CD = 0.0150 CM = 0.097
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS295.D03 3-FEB-88

YTS295.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* 80% cavity
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS295.D03 - Continued

Run number : 197
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.330 ftHgA = 7.84 psiA
Speed manometer = 1.963 ftHgW = 39.64 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.4136	1.7461	-2.2653	-0.4108	-1.5109	0.0079	0.5622
	0.0038	0.0057	0.0637	0.0890	0.2464	0.0019	0.0037
1	-1.4213	1.7526	-2.2830	-0.4405	-1.4857	0.1090	-1.5891
	0.0054	0.0053	0.0775	0.1087	0.0961	0.0022	0.0062
2	-1.4159	1.7469	-2.2822	-0.4213	-1.4487	0.2099	-1.5714
	0.0021	0.0057	0.0598	0.0791	0.1314	0.0022	0.0033
3	-1.4072	1.7439	-2.2824	-0.4261	-1.4654	0.3104	-1.5717
	0.0019	0.0054	0.0530	0.0860	0.1361	0.0023	0.0043
4	-1.4163	1.7493	-2.2871	-0.4360	-1.4496	0.4110	-1.5719
	0.0034	0.0066	0.0743	0.0977	0.1073	0.0021	0.0030
5	-1.4220	1.7548	-2.2822	-0.4333	-1.4321	0.5120	-1.5664
	0.0059	0.0066	0.0789	0.0986	0.0937	0.0024	0.0020
6	-1.4271	1.7493	-2.2915	-0.4443	-1.4449	0.6130	-1.5601
	0.0053	0.0063	0.0832	0.1027	0.1520	0.0019	0.0018
7	-1.4373	1.7638	-2.2933	-0.4622	-1.4496	0.7114	-1.5475
	0.0061	0.0081	0.0991	0.1264	0.1420	0.0028	0.0059
8	-1.4302	1.7537	-2.2789	-0.4376	-1.4194	0.8124	-1.5385
	0.0057	0.0067	0.0823	0.1336	0.1751	0.0034	0.0057
9	-1.4188	1.7584	-2.2933	-0.4391	-1.4457	0.9134	-1.4895
	0.0055	0.0072	0.0906	0.1327	0.1478	0.0026	0.0031
10	-1.4229	1.7594	-2.2952	-0.4617	-1.4195	1.0139	-0.7479
	0.0059	0.0071	0.0743	0.0931	0.1478	0.0003	0.0353
11	-1.4116	1.7448	-2.2703	-0.3950	-1.4973	1.1146	-0.0922
	0.0016	0.0061	0.0584	0.0835	0.1203	0.0047	0.0077
12	-1.4089	1.7339	-2.2458	-0.3949	-1.5097	1.2153	0.0184
	0.0022	0.0068	0.0321	0.0579	0.0627	0.0023	0.0052

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-6.51	10.67	264.58	9.57	16.92	0.00	2.96
1	-6.54	10.71	266.70	10.26	16.63	1.00	-7.79
2	-6.52	10.68	266.60	9.81	16.22	2.00	-7.71
3	-6.47	10.66	266.63	9.92	16.41	3.00	-7.71
4	-6.52	10.69	267.19	10.15	16.23	4.00	-7.71
5	-6.55	10.73	266.60	10.09	16.03	5.00	-7.68
6	-6.57	10.69	267.72	10.34	16.18	6.00	-7.65
7	-6.62	10.78	267.93	10.77	16.23	7.00	-7.59
8	-6.59	10.72	266.20	10.19	15.89	8.00	-7.54
9	-6.53	10.75	267.93	10.22	16.19	9.00	-7.30
10	-6.55	10.76	268.16	10.75	15.89	10.00	-3.59
11	-6.50	10.67	265.18	9.20	16.77	11.00	-0.31
12	-6.48	10.60	262.24	9.20	16.91	12.00	0.24
Averages	-6.53	10.70	266.51	10.04	16.35	6.00	-5.34

Total Forces (including tare forces) :

Lift	= 266.51 lbs,	CL =	0.701
Drag	= 10.04 lbs,	CD =	0.0264
Moment	= 16.35 ft-lbs,	CM =	0.086

Tunnel Pressure & Velocity :

Pt	= -6.53 psiG	=	7.87 psiA
Pv	= 10.70 Dpsi,	Vt =	39.60 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.96	-0.281
1	0.030	-7.79	0.737
2	0.060	-7.71	0.731
3	0.110	-7.71	0.733
4	0.160	-7.71	0.730
5	0.260	-7.68	0.725
6	0.330	-7.65	0.725
7	0.450	-7.59	0.713
8	0.560	-7.54	0.713
9	0.680	-7.30	0.688
10	0.810	-3.59	0.338
11	0.900	-0.31	0.029
12	0.950	0.24	-0.023

*
EOR

YTS295.D03 - Continued

Run number : 278
* tare run for run 197
*
Angle of attack : 4.00 degrees
Tunnel pressure = 1.335 ftHgA = 7.87 psiA
Speed manometer = 1.964 ftHgW = 39.64 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.4288	1.7452	-0.0717	-0.0778	0.0059	0.1087	1.2187
	0.0086	0.0120	0.0168	0.0857	0.0069	0.0022	0.0138
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-6.61	10.72	-3.74	2.04	-0.03	0.00	6.92
Averages	-6.61	10.72	-3.74	2.05	-0.03	0.00	6.92

Tare Forces :

Lift = -3.74 lbs, CL = -0.010
Drag = 2.05 lbs, CD = 0.0054
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

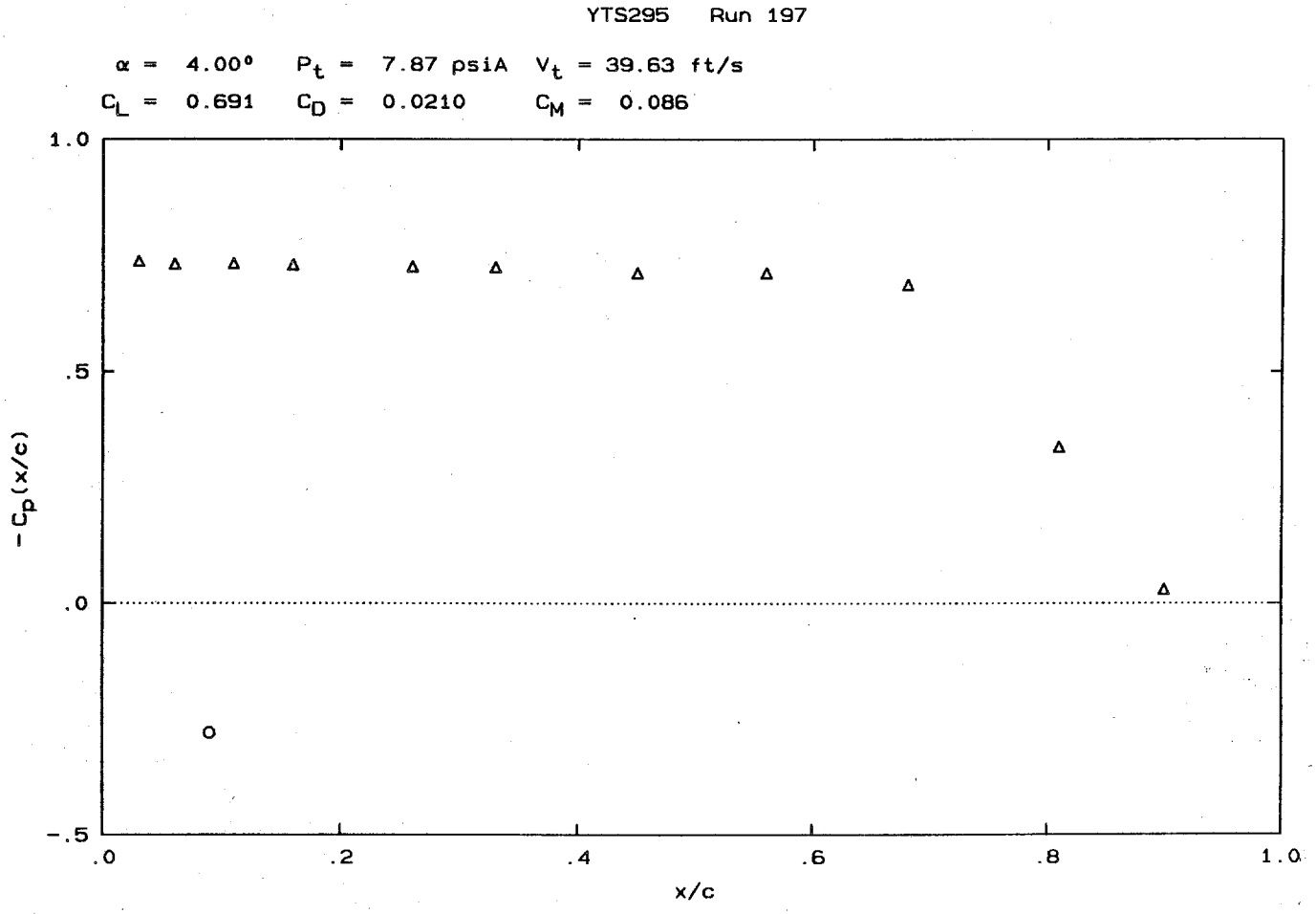
Pt = -6.61 psiG = 7.79 psiA
Pv = 10.72 Dpsi, Vt = 39.63 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 262.78 lbs, CL = 0.691
Drag = 7.99 lbs, CD = 0.0210
Moment = 16.32 ft-lbs, CM = 0.086

EOF YTS295.D03


YTS295 Run 197
α = 4.00° Pt = 7.87 psiA Vt = 39.63 ft/s
CL = 0.691 CD = 0.0210 CM = 0.086
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS296.D03 3-FEB-88

YTS296.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS296.D03 - Continued

Run number : 198
*
Angle of attack : 4.00 degrees
Tunnel pressure = 2.990 ftHgA = 17.62 psiA
Speed manometer = 1.964 ftHgW = 39.65 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.5774	1.7481	-1.9743	-0.2751	-1.5233	0.0078	0.5438
	0.0044	0.0064	0.0138	0.0316	0.0174	0.0020	0.0040
1	0.5758	1.7429	-1.9634	-0.2737	-1.5157	0.1089	-2.0647
	0.0052	0.0078	0.0149	0.0371	0.0320	0.0023	0.0083
2	0.5722	1.7351	-1.9632	-0.2735	-1.5181	0.2098	-1.7332
	0.0037	0.0083	0.0129	0.0395	0.0292	0.0022	0.0054
3	0.6190	1.7487	-1.9692	-0.2735	-1.5157	0.3104	-1.5806
	0.0063	0.0085	0.0128	0.0331	0.0179	0.0022	0.0063
4	0.6049	1.7496	-1.9751	-0.2742	-1.5256	0.4110	-1.4128
	0.0053	0.0108	0.0150	0.0317	0.0161	0.0021	0.0079
5	0.5955	1.7482	-1.9724	-0.2728	-1.5224	0.5120	-1.3287
	0.0034	0.0090	0.0151	0.0372	0.0117	0.0024	0.0045
6	0.5893	1.7494	-1.9859	-0.2710	-1.5282	0.6129	-1.2747
	0.0050	0.0080	0.0142	0.0266	0.0215	0.0019	0.0061
7	0.5976	1.7373	-1.9676	-0.2733	-1.5097	0.7113	-1.1876
	0.0040	0.0072	0.0130	0.0378	0.0176	0.0029	0.0057
8	0.5911	1.7398	-1.9715	-0.2702	-1.5164	0.8124	-1.1080
	0.0037	0.0097	0.0132	0.0316	0.0160	0.0034	0.0062
9	0.5839	1.7401	-1.9739	-0.2748	-1.5159	0.9134	-0.9520
	0.0036	0.0090	0.0132	0.0337	0.0286	0.0027	0.0050
10	0.5779	1.7375	-1.9669	-0.2747	-1.5129	1.0138	-0.6677
	0.0055	0.0084	0.0124	0.0355	0.0257	0.0006	0.0058
11	0.5686	1.7458	-1.9778	-0.2687	-1.5225	1.1147	-0.2626
	0.0051	0.0088	0.0156	0.0349	0.0158	0.0047	0.0045
12	0.5524	1.7616	-1.9987	-0.2732	-1.5363	1.2153	-0.0302
	0.0036	0.0090	0.0130	0.0324	0.0297	0.0021	0.0049

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.26	10.69	229.62	6.46	17.08	0.00	2.87
1	3.25	10.65	228.31	6.43	16.99	1.00	-10.17
2	3.24	10.61	228.29	6.42	17.02	2.00	-8.51
3	3.47	10.69	229.01	6.43	16.99	3.00	-7.75
4	3.40	10.69	229.72	6.44	17.10	4.00	-6.91
5	3.35	10.69	229.40	6.41	17.07	5.00	-6.49
6	3.32	10.69	231.02	6.37	17.13	6.00	-6.22
7	3.36	10.62	228.82	6.42	16.93	7.00	-5.79
8	3.33	10.63	229.29	6.35	17.00	8.00	-5.39
9	3.29	10.64	229.58	6.45	17.00	9.00	-4.61
10	3.26	10.62	228.74	6.45	16.96	10.00	-3.19
11	3.22	10.67	230.04	6.31	17.07	11.00	-1.16
12	3.14	10.77	232.55	6.42	17.22	12.00	0.00
Averages	3.30	10.67	229.64	6.41	17.05	6.00	-4.87

Total Forces (including tare forces) :

Lift	= 229.64 lbs,	CL =	0.606
Drag	= 6.41 lbs,	CD =	0.0169
Moment	= 17.05 ft-lbs,	CM =	0.090

Tunnel Pressure & Velocity :

Pt	= 3.30 psiG	= 17.70 psiA	
Pv	= 10.67 Dpsi,	Vt = 39.54 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	2.87	-0.272
1	0.030	-10.17	0.967
2	0.060	-8.51	0.814
3	0.110	-7.75	0.735
4	0.160	-6.91	0.655
5	0.260	-6.49	0.616
6	0.330	-6.22	0.590
7	0.450	-5.79	0.552
8	0.560	-5.39	0.513
9	0.680	-4.61	0.439
10	0.810	-3.19	0.304
11	0.900	-1.16	0.110
12	0.950	0.00	0.000

*
EOR

YTS296.D03 - Continued

Run number : 279
* tare run for run 198
*
Angle of attack : 4.00 degrees
Tunnel pressure = 2.977 ftHgA = 17.55 psiA
Speed manometer = 1.957 ftHgW = 39.57 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.5485	1.7428	-0.0752	-0.0513	0.0052	0.1086	-0.7141
	0.0043	0.0094	0.0070	0.0333	0.0049	0.0023	0.0102

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.09	10.70	-3.31	1.42	-0.02	0.00	-2.75
Averages	3.09	10.70	-3.32	1.42	-0.02	0.00	-2.75

Tare Forces :

Lift = -3.32 lbs, CL = -0.009
Drag = 1.42 lbs, CD = 0.0037
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

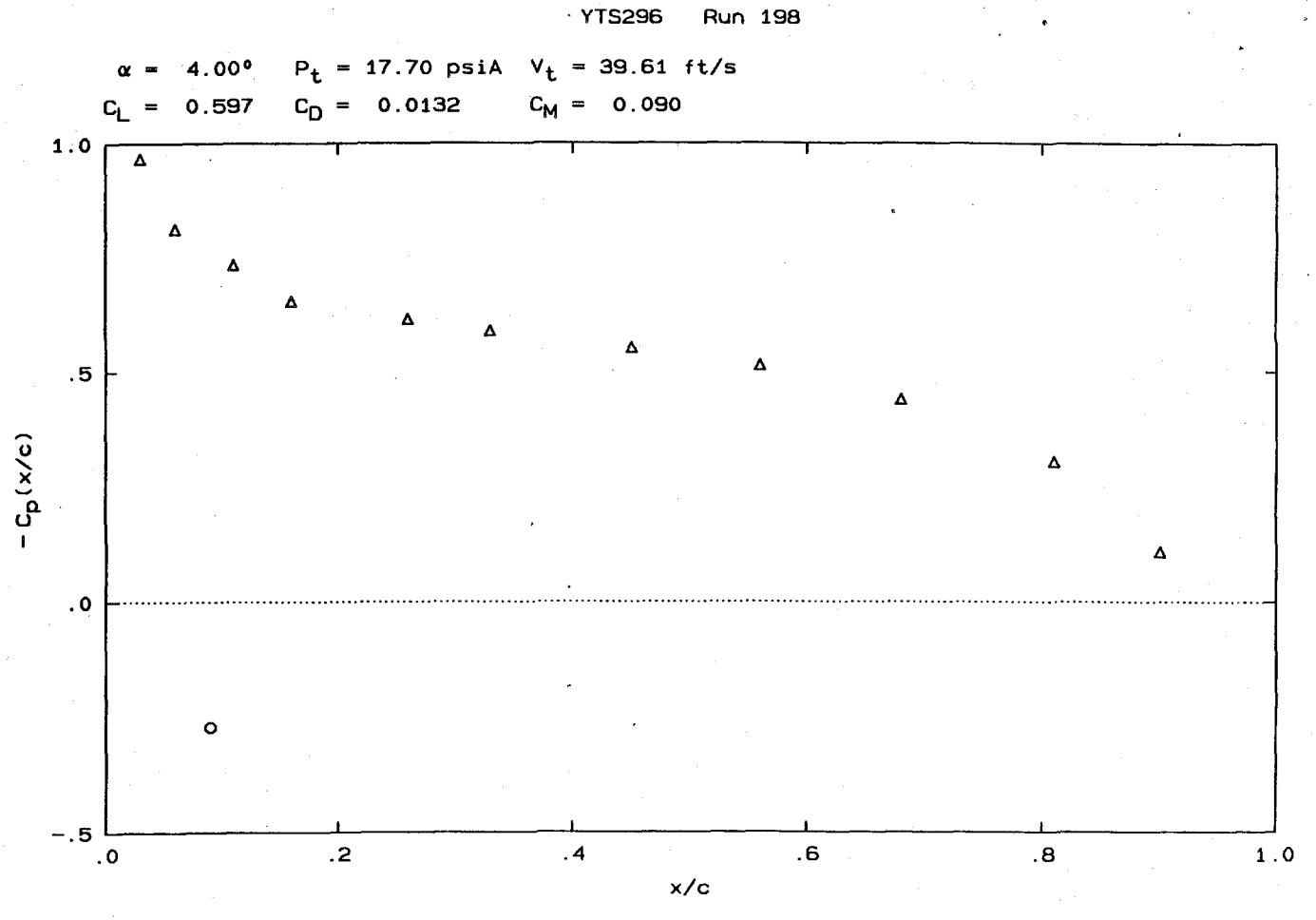
Pt = 3.09 psiG = 17.49 psiA
Pv = 10.70 Dpsi, Vt = 39.61 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 226.32 lbs, CL = 0.597
Drag = 4.99 lbs, CD = 0.0132
Moment = 17.02 ft-lbs, CM = 0.090

EOF YTS296.D03


YTS296 Run 198
α = 4.00° P_t = 17.70 psiA V_t = 39.61 ft/s
C_L = 0.597 C_D = 0.0132 C_M = 0.090
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS297.D03 3-FEB-88

YTS297.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* 6 deg cav inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS297.D03 - Continued

Run number : 199
*
Angle of attack : 6.00 degrees
Tunnel pressure = 4.422 ftHgA = 26.06 psiA
Speed manometer = 1.987 ftHgW = 39.87 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.3007	1.7589	-2.6049	-0.3465	-2.3695	0.0077	0.7438
	0.0072	0.0116	0.0175	0.0403	0.0205	0.0019	0.0056
1	2.2901	1.7719	-2.6203	-0.3550	-2.3827	0.1088	-3.0870
	0.0040	0.0092	0.0171	0.0353	0.0304	0.0023	0.0066
2	2.2937	1.7649	-2.6093	-0.3507	-2.3728	0.2096	-2.4381
	0.0057	0.0116	0.0200	0.0427	0.0134	0.0023	0.0124
3	2.3087	1.7457	-2.5854	-0.3449	-2.3495	0.3102	-2.0574
	0.0064	0.0099	0.0168	0.0384	0.0112	0.0023	0.0116
4	2.2943	1.7581	-2.5987	-0.3543	-2.3646	0.4107	-1.8601
	0.0036	0.0105	0.0171	0.0314	0.0286	0.0021	0.0061
5	2.2962	1.7464	-2.5915	-0.3446	-2.3552	0.5117	-1.6203
	0.0012	0.0105	0.0186	0.0387	0.0266	0.0023	0.0076
6	2.2842	1.7487	-2.5945	-0.3504	-2.3575	0.6127	-1.5074
	0.0084	0.0103	0.0188	0.0375	0.0310	0.0018	0.0114
7	2.3041	1.7526	-2.5980	-0.3484	-2.3670	0.7112	-1.3642
	0.0084	0.0100	0.0196	0.0308	0.0392	0.0028	0.0080
8	2.3003	1.7531	-2.5991	-0.3535	-2.3613	0.8122	-1.2290
	0.0073	0.0094	0.0222	0.0321	0.0274	0.0034	0.0080
9	2.3129	1.7393	-2.5818	-0.3452	-2.3480	0.9132	-1.0120
	0.0058	0.0090	0.0179	0.0384	0.0219	0.0030	0.0073
10	2.3044	1.7435	-2.5782	-0.3472	-2.3458	1.0140	-0.6775
	0.0077	0.0093	0.0197	0.0425	0.0318	0.0000	0.0070
11	2.2963	1.7416	-2.5789	-0.3487	-2.3446	1.1152	-0.2547
	0.0042	0.0095	0.0173	0.0393	0.0180	0.0048	0.0062
12	2.2879	1.7525	-2.5955	-0.3542	-2.3568	1.2164	-0.0473
	0.0055	0.0099	0.0191	0.0356	0.0349	0.0023	0.0078

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	11.72	10.75	305.43	8.13	26.53	0.00	3.87
1	11.66	10.83	307.27	8.33	26.67	1.00	-15.28
2	11.68	10.79	305.95	8.23	26.56	2.00	-12.04
3	11.76	10.67	303.09	8.09	26.30	3.00	-10.14
4	11.69	10.75	304.68	8.31	26.47	4.00	-9.15
5	11.69	10.68	303.82	8.08	26.37	5.00	-7.95
6	11.64	10.69	304.18	8.22	26.39	6.00	-7.39
7	11.73	10.71	304.60	8.17	26.50	7.00	-6.67
8	11.71	10.72	304.73	8.29	26.44	8.00	-5.99
9	11.78	10.63	302.65	8.09	26.29	9.00	-4.91
10	11.73	10.66	302.22	8.14	26.26	10.00	-3.24
11	11.69	10.65	302.30	8.18	26.25	11.00	-1.12
12	11.65	10.71	304.30	8.31	26.39	12.00	-0.09
Averages	11.70	10.71	304.34	8.20	26.43	6.00	-6.16

Total Forces (including tare forces) :

Lift	= 304.34 lbs,	CL =	0.800
Drag	= 8.20 lbs,	CD =	0.0215
Moment	= 26.43 ft-lbs,	CM =	0.139

Tunnel Pressure & Velocity :

Pt	= 11.70 psiG	=	26.11 psiA
Pv	= 10.71 Dpsi,	Vt =	39.62 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	3.87	-0.365
1	0.030	-15.28	1.429
2	0.060	-12.04	1.131
3	0.110	-10.14	0.962
4	0.160	-9.15	0.863
5	0.260	-7.95	0.755
6	0.330	-7.39	0.700
7	0.450	-6.67	0.631
8	0.560	-5.99	0.567
9	0.680	-4.91	0.468
10	0.810	-3.24	0.308
11	0.900	-1.12	0.107
12	0.950	-0.09	0.008

*
EOR

YTS297.D03 - Continued

Run number : 280
* tare run for run 199
*
Angle of attack : 6.00 degrees
Tunnel pressure = 4.408 ftHgA = 25.98 psiA
Speed manometer = 1.952 ftHgW = 39.53 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	2.2591	1.7560	-0.0698	-0.0226	0.0073	0.1086	-2.3673
	0.0115	0.0105	0.0068	0.0268	0.0066	0.0022	0.0181

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	11.49	10.79	-3.96	0.76	-0.05	0.00	-11.01
Averages	11.49	10.79	-3.96	0.76	-0.05	0.00	-11.01

Tare Forces :

Lift = -3.96 lbs, CL = -0.010
Drag = 0.76 lbs, CD = 0.0020
Moment = -0.05 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

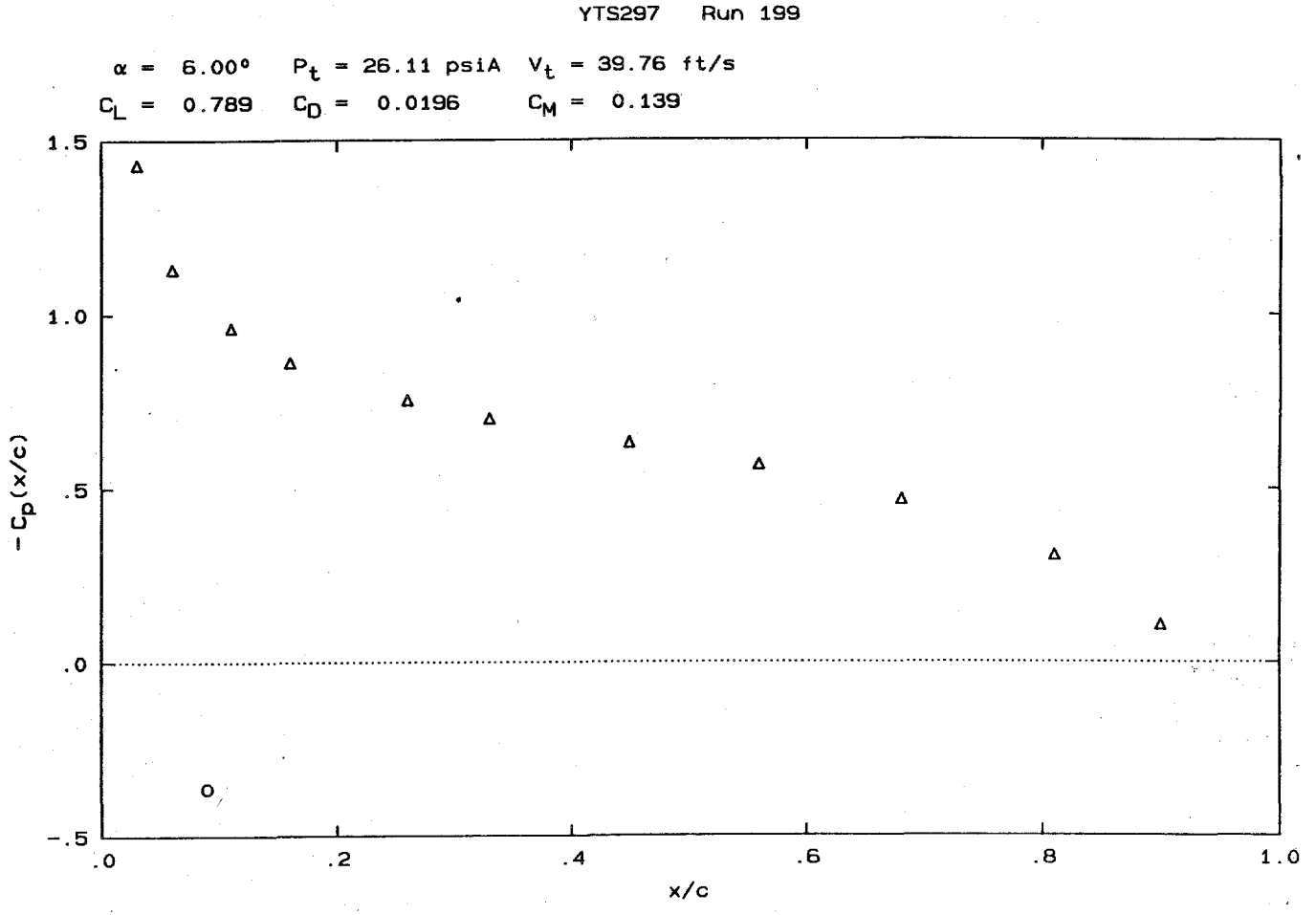
Pt = 11.49 psiG = 25.88 psiA
Pv = 10.79 Dpsi, Vt = 39.76 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 300.38 lbs, CL = 0.789
Drag = 7.44 lbs, CD = 0.0196
Moment = 26.38 ft-lbs, CM = 0.139

EOF YTS297.D03


YTS297 Run 199
α = 6.00° Pt = 26.11 psiA Vt = 39.76 ft/s
CL = 0.789 CD = 0.0196 CM = 0.139
1.5
1.0
.5
.0
-.5
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS298.D03 3-FEB-88

YTS298.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS298.D03 - Continued

Run number : 200
*
Angle of attack : 6.00 degrees
Tunnel pressure = 5.709 ftHgA = 33.65 psiA
Speed manometer = 1.954 ftHgW = 39.55 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	3.8074	1.7423	-2.5585	-0.3408	-2.3011	0.0077	-0.2469
	0.0068	0.0110	0.0162	0.0332	0.0230	0.0019	0.0082
1	3.8158	1.7572	-2.5881	-0.3406	-2.3255	0.1088	-3.0136
	0.0030	0.0118	0.0159	0.0309	0.0139	0.0023	0.0103
2	3.8029	1.7612	-2.5948	-0.3358	-2.3281	0.2096	-2.4370
	0.0089	0.0114	0.0172	0.0341	0.0142	0.0024	0.0103
3	3.8407	1.7499	-2.5768	-0.3393	-2.3117	0.3102	-2.0978
	0.0108	0.0106	0.0168	0.0303	0.0261	0.0023	0.0104
4	3.8241	1.7566	-2.5796	-0.3382	-2.3190	0.4108	-1.9442
	0.0100	0.0107	0.0186	0.0384	0.0188	0.0021	0.0092
5	3.8154	1.7663	-2.6008	-0.3420	-2.3380	0.5118	-1.7170
	0.0066	0.0116	0.0162	0.0293	0.0108	0.0023	0.0050
6	3.8124	1.7602	-2.5996	-0.3394	-2.3356	0.6127	-1.6003
	0.0024	0.0107	0.0146	0.0281	0.0180	0.0019	0.0079
7	3.8008	1.7582	-2.5856	-0.3442	-2.3205	0.7112	-1.4599
	0.0098	0.0117	0.0176	0.0288	0.0193	0.0028	0.0083
8	3.8036	1.7555	-2.5783	-0.3375	-2.3155	0.8122	-1.3815
	0.0085	0.0105	0.0169	0.0300	0.0193	0.0035	0.0093
9	3.8092	1.7519	-2.5792	-0.3375	-2.3194	0.9133	-1.2141
	0.0075	0.0125	0.0156	0.0329	0.0254	0.0028	0.0082
10	3.8090	1.7463	-2.5651	-0.3417	-2.3065	1.0139	-1.0075
	0.0076	0.0124	0.0162	0.0287	0.0133	0.0003	0.0082
11	3.8044	1.7614	-2.5928	-0.3380	-2.3303	1.1154	-0.7903
	0.0070	0.0121	0.0164	0.0334	0.0119	0.0048	0.0093
12	3.8180	1.7637	-2.6024	-0.3425	-2.3365	1.2164	-0.7566
	0.0052	0.0101	0.0153	0.0290	0.0154	0.0019	0.0090

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	19.11	10.65	299.85	7.99	25.76	0.00	-1.08
1	19.15	10.74	303.41	7.99	26.04	1.00	-14.92
2	19.09	10.77	304.21	7.87	26.07	2.00	-12.03
3	19.27	10.70	302.05	7.95	25.88	3.00	-10.34
4	19.19	10.74	302.39	7.93	25.96	4.00	-9.57
5	19.15	10.80	304.93	8.02	26.18	5.00	-8.43
6	19.13	10.76	304.79	7.96	26.15	6.00	-7.85
7	19.08	10.75	303.11	8.07	25.98	7.00	-7.15
8	19.09	10.73	302.23	7.91	25.92	8.00	-6.76
9	19.12	10.71	302.34	7.91	25.97	9.00	-5.92
10	19.12	10.67	300.64	8.01	25.82	10.00	-4.89
11	19.09	10.77	303.97	7.93	26.09	11.00	-3.80
12	19.16	10.78	305.12	8.03	26.16	12.00	-3.63
Averages	19.13	10.74	303.09	7.97	26.01	6.00	-7.41

YTS298.D03 Run 200 - Continued

Total Forces (including tare forces) :

Lift = 303.09 lbs, CL = 0.794
Drag = 7.97 lbs, CD = 0.0209
Moment = 26.01 ft-lbs, CM = 0.136

Tunnel Pressure & Velocity :

Pt = 19.13 psiG = 33.54 psiA
Pv = 10.74 Dpsi, Vt = 39.67 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.08	0.103
1	0.030	-14.92	1.407
2	0.060	-12.03	1.132
3	0.110	-10.34	0.979
4	0.160	-9.57	0.903
5	0.260	-8.43	0.791
6	0.330	-7.85	0.739
7	0.450	-7.15	0.674
8	0.560	-6.76	0.638
9	0.680	-5.92	0.560
10	0.810	-4.89	0.464
11	0.900	-3.80	0.358
12	0.950	-3.63	0.341

* pressure taps 11 and 12 repeated 3 times
*
EOR

YTS298.D03 - Continued

Run number : 284
* tare run for run 200
*
Angle of attack : 6.00 degrees
Tunnel pressure = 5.707 ftHgA = 33.64 psiA
Speed manometer = 1.982 ftHgW = 39.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	3.8970	1.7624	-0.0712	0.0068	0.0108	0.1088	-3.9678
	0.0121	0.0125	0.0060	0.0397	0.0140	0.0023	0.0199
1	3.8748	1.7673	-0.0710	0.0072	0.0084	0.1087	-3.9472
	0.0078	0.0145	0.0062	0.0469	0.0100	0.0023	0.0179

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	19.52	10.83	-3.79	0.07	-0.08	0.00	-19.01
1	19.41	10.86	-3.82	0.06	-0.06	1.00	-18.91
Averages	19.47	10.84	-3.81	0.06	-0.07	0.50	-18.96

Tare Forces :

Lift = -3.81 lbs, CL = -0.010
Drag = 0.06 lbs, CD = 0.0002
Moment = -0.07 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = 19.47 psiG = 33.86 psiA
Pv = 10.84 Dpsi, Vt = 39.86 ft/s

*
EOR

Model Forces (excluding tare forces) :

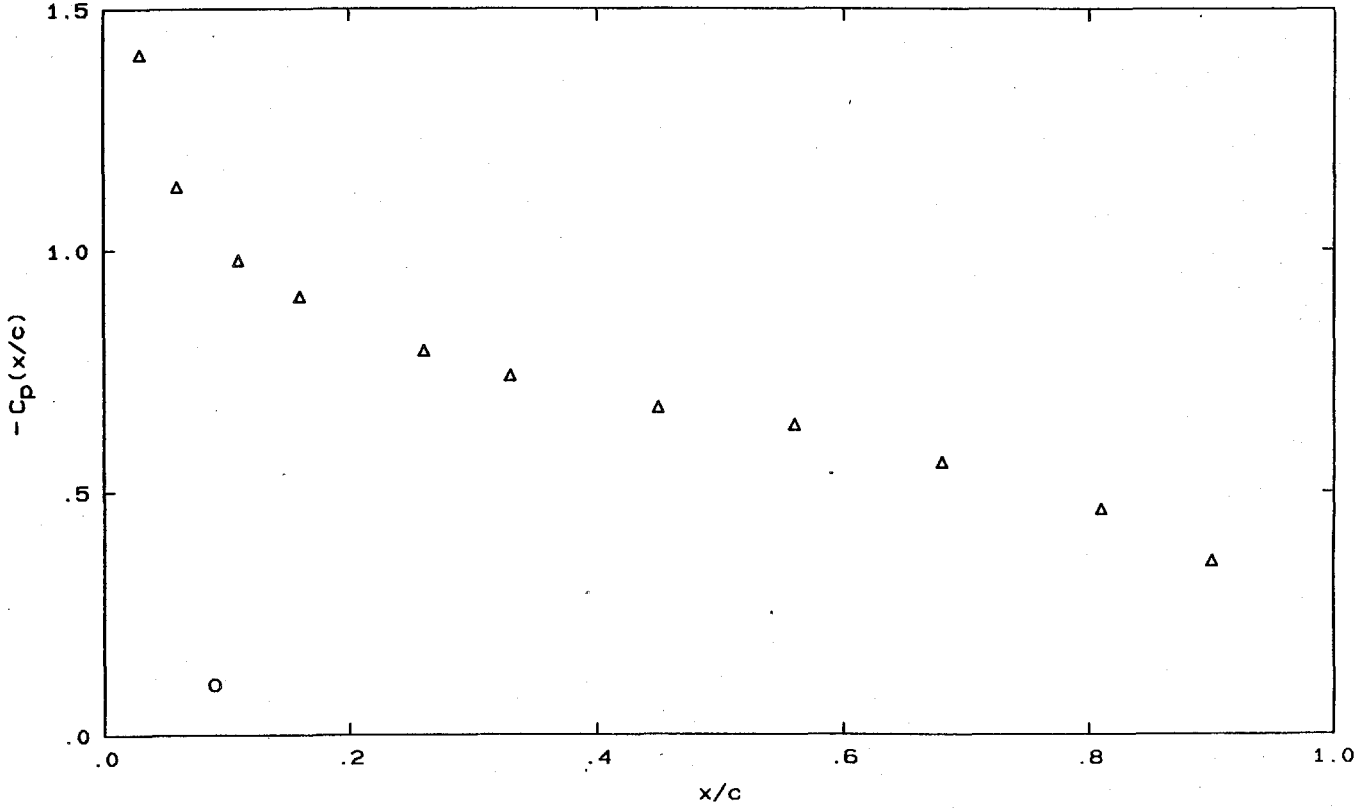
Lift = 299.28 lbs, CL = 0.784
Drag = 7.91 lbs, CD = 0.0207
Moment = 25.94 ft-lbs, CM = 0.136

EOF YTS298.D03

YTS298 Run 200

α = 6.00° P_t = 33.54 psiA V_t = 39.86 ft/s

C_L = 0.784 C_D = 0.0207 C_M = 0.136



YTS299.D03 3-FEB-88

YTS299.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* 10 % cavity
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS299.D03 - Continued

Run number : 201
* photos 201 have two sets. 1st set is to show laminar separation bubble
* bubble
*
Angle of attack : 6.00 degrees
Tunnel pressure = 3.198 ftHgA = 18.85 psiA
Speed manometer = 1.953 ftHgW = 39.53 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.7971	1.7426	-2.6252	-0.4495	-2.4439	0.0077	0.8794
	0.0043	0.0093	0.0252	0.0479	0.0238	0.0020	0.0061
1	0.7835	1.7449	-2.6327	-0.4494	-2.4515	0.1088	-3.6596
	0.0043	0.0098	0.0240	0.0573	0.0350	0.0023	0.0082
2	0.7773	1.7518	-2.6330	-0.4478	-2.4617	0.2096	-3.5911
	0.0052	0.0099	0.0255	0.0440	0.0302	0.0023	0.0160
3	0.8002	1.7518	-2.6340	-0.4509	-2.4510	0.3103	-2.7996
	0.0040	0.0105	0.0246	0.0547	0.0398	0.0022	0.0806
4	0.7895	1.7550	-2.6422	-0.4523	-2.4541	0.4107	-1.5546
	0.0046	0.0125	0.0276	0.0533	0.0330	0.0021	0.0082
5	0.8016	1.7402	-2.6123	-0.4429	-2.4395	0.5118	-1.5470
	0.0055	0.0103	0.0245	0.0488	0.0247	0.0023	0.0089
6	0.7856	1.7483	-2.6447	-0.4484	-2.4649	0.6127	-1.4722
	0.0046	0.0110	0.0214	0.0558	0.0205	0.0019	0.0077
7	0.7948	1.7413	-2.6228	-0.4417	-2.4379	0.7114	-1.3411
	0.0073	0.0096	0.0252	0.0483	0.0425	0.0028	0.0078
8	0.7964	1.7392	-2.6174	-0.4412	-2.4351	0.8123	-1.2172
	0.0042	0.0100	0.0252	0.0492	0.0310	0.0035	0.0067
9	0.7802	1.7461	-2.6347	-0.4446	-2.4606	0.9137	-1.0165
	0.0041	0.0101	0.0253	0.0622	0.0196	0.0029	0.0063
10	0.7731	1.7591	-2.6448	-0.4487	-2.4702	1.0144	-0.6960
	0.0044	0.0116	0.0274	0.0423	0.0210	0.0008	0.0065
11	0.7735	1.7539	-2.6421	-0.4505	-2.4625	1.1158	-0.2856
	0.0047	0.0104	0.0277	0.0527	0.0202	0.0048	0.0063
12	0.7813	1.7428	-2.6319	-0.4428	-2.4553	1.2169	-0.0656
	0.0057	0.0119	0.0256	0.0416	0.0338	0.0016	0.0061

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.34	10.65	307.87	10.54	27.35	0.00	4.55
1	4.27	10.67	308.77	10.54	27.44	1.00	-18.15
2	4.24	10.71	308.80	10.50	27.55	2.00	-17.80
3	4.36	10.71	308.92	10.57	27.43	3.00	-13.85
4	4.30	10.73	309.91	10.61	27.47	4.00	-7.62
5	4.36	10.64	306.32	10.39	27.31	5.00	-7.58
6	4.28	10.69	310.21	10.52	27.59	6.00	-7.21
7	4.33	10.64	307.58	10.36	27.29	7.00	-6.55
8	4.34	10.63	306.93	10.35	27.26	8.00	-5.94
9	4.26	10.67	309.01	10.43	27.54	9.00	-4.93
10	4.22	10.75	310.22	10.53	27.65	10.00	-3.33
11	4.22	10.72	309.89	10.57	27.56	11.00	-1.28
12	4.26	10.65	308.67	10.38	27.48	12.00	-0.18
Averages	4.29	10.68	308.79	10.49	27.46	6.00	-6.91

Total Forces (including tare forces) :

Lift	= 308.79 lbs,	CL =	0.813
Drag	= 10.49 lbs,	CD =	0.0276
Moment	= 27.46 ft-lbs,	CM =	0.145

Tunnel Pressure & Velocity :

Pt	= 4.29 psiG	=	18.70 psiA
Pv	= 10.68 Dpsi,	Vt =	39.57 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.55	-0.433
1	0.030	-18.15	1.724
2	0.060	-17.80	1.685
3	0.110	-13.85	1.310
4	0.160	-7.62	0.720
5	0.260	-7.58	0.722
6	0.330	-7.21	0.684
7	0.450	-6.55	0.624
8	0.560	-5.94	0.566
9	0.680	-4.93	0.468
10	0.810	-3.33	0.314
11	0.900	-1.28	0.121
12	0.950	-0.18	0.017

* tap 1 and 2 repeated
*
EOR

YTS299.D03 - Continued

Run number : 281
* tare run for run 201
*
Angle of attack : 4.00 degrees
Tunnel pressure = 3.159 ftHgA = 18.62 psiA
Speed manometer = 1.947 ftHgW = 39.48 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.7701	1.7346	-0.0685	-0.0334	0.0066	0.1086	-0.9069
	0.0114	0.0089	0.0080	0.0361	0.0072	0.0023	0.0174
	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	4.18	10.65	-4.12	1.00	-0.04	0.00	-3.71
Averages	4.18	10.65	-4.12	1.00	-0.04	0.00	-3.71

Tare Forces :

Lift = -4.12 lbs, CL = -0.011
Drag = 1.00 lbs, CD = 0.0027
Moment = -0.04 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

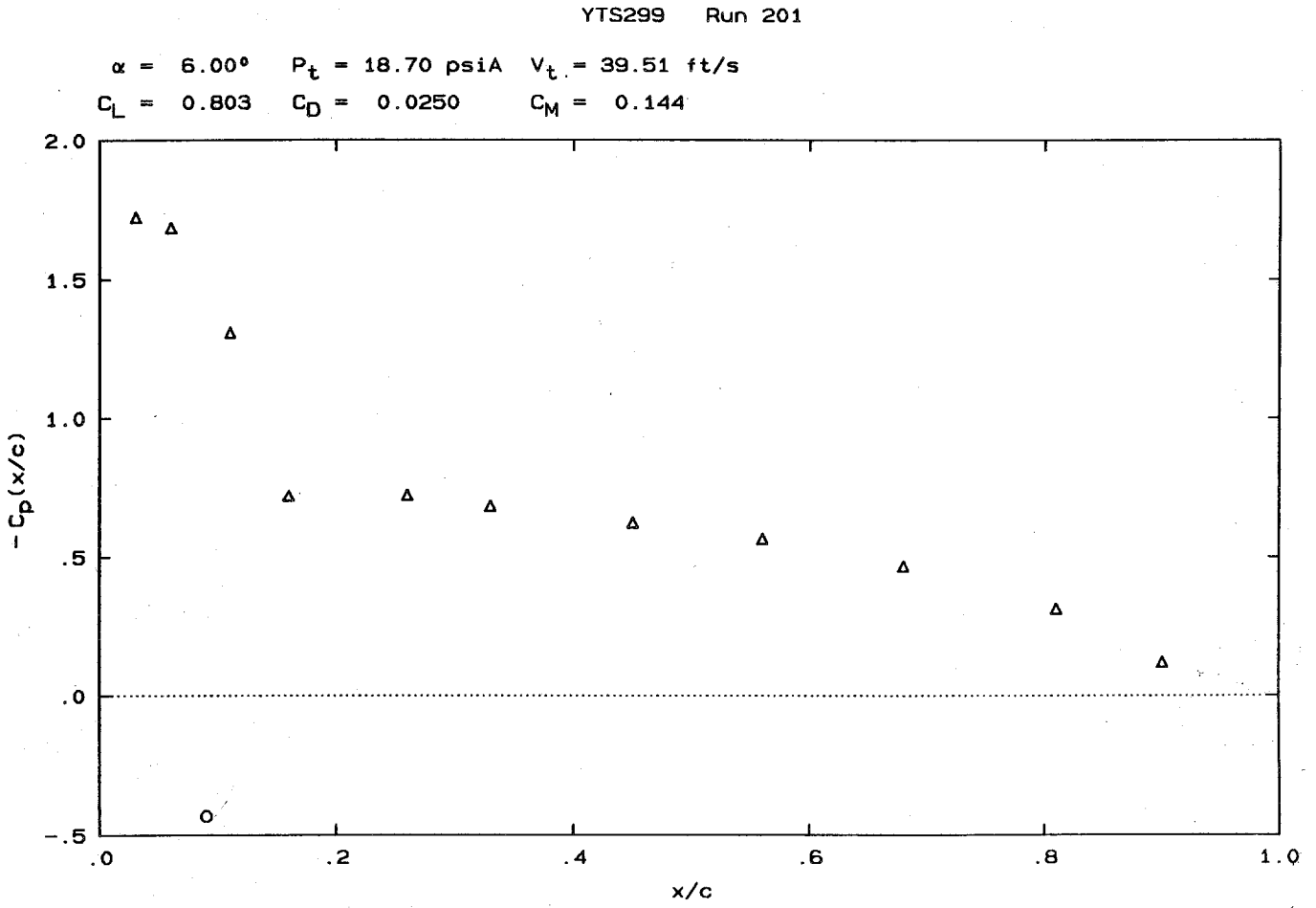
Pt = 4.18 psiG = 18.57 psiA
Pv = 10.65 Dpsi, Vt = 39.51 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 304.67 lbs, CL = 0.803
Drag = 9.48 lbs, CD = 0.0250
Moment = 27.43 ft-lbs, CM = 0.144

EOF YTS299.D03


YTS299 Run 201
α = 6.00° Pt = 18.70 psiA Vt = 39.51 ft/s
CL = 0.803 CD = 0.0250 CM = 0.144
2.0
1.5
1.0
.5
.0
-.5
- Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS300.D03 3-FEB-88

YTS300.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* 25 % cavity
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure :. 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content :   0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS300.D03 - Continued

Run number : 202
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.665 ftHgA = 15.71 psiA
Speed manometer = 1.930 ftHgW = 39.30 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.1541	1.7403	-2.6669	-0.4978	-2.5665	0.0077	0.8686
	0.0043	0.0115	0.0999	0.1353	0.0435	0.0020	0.0059
1	0.1694	1.7366	-2.6666	-0.5042	-2.5451	0.1088	-3.0897
	0.0043	0.0102	0.1008	0.1437	0.0490	0.0023	0.0095
2	0.1555	1.7426	-2.6799	-0.4948	-2.5639	0.2095	-3.0604
	0.0037	0.0119	0.1070	0.1801	0.0481	0.0023	0.0075
3	0.1732	1.7315	-2.6598	-0.5057	-2.5382	0.3102	-3.0430
	0.0040	0.0118	0.0806	0.1134	0.0463	0.0024	0.0109
4	0.1596	1.7433	-2.6718	-0.5032	-2.5576	0.4107	-2.9805
	0.0040	0.0102	0.0848	0.1352	0.0701	0.0021	0.0102
5	0.1583	1.7461	-2.6763	-0.5099	-2.5433	0.5117	-1.0637
	0.0059	0.0101	0.0875	0.1181	0.0878	0.0024	0.0360
6	0.1460	1.7496	-2.6862	-0.5159	-2.5610	0.6128	-1.2460
	0.0040	0.0101	0.0981	0.1399	0.0834	0.0019	0.0073
7	0.1561	1.7461	-2.6833	-0.5364	-2.5567	0.7114	-1.2560
	0.0040	0.0129	0.1068	0.1882	0.0917	0.0029	0.0065
8	0.1623	1.7372	-2.6648	-0.5035	-2.5422	0.8125	-1.1698
	0.0051	0.0112	0.1010	0.1207	0.0672	0.0035	0.0056
9	0.1566	1.7365	-2.6615	-0.5024	-2.5481	0.9141	-0.9886
	0.0041	0.0110	0.0693	0.1085	0.0352	0.0028	0.0059
10	0.1454	1.7467	-2.6720	-0.5115	-2.5657	1.0148	-0.6756
	0.0040	0.0100	0.1116	0.1579	0.0839	0.0011	0.0082
11	0.1385	1.7516	-2.6922	-0.5096	-2.5712	1.1162	-0.2895
	0.0060	0.0102	0.1307	0.2018	0.0626	0.0046	0.0060
12	0.1375	1.7556	-2.6965	-0.5078	-2.5876	1.2173	-0.0732
	0.0044	0.0118	0.1286	0.1821	0.0579	0.0016	0.0053

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.19	10.64	312.88	11.68	28.72	0.00	4.49
1	1.26	10.61	312.84	11.83	28.48	1.00	-15.30
2	1.19	10.65	314.44	11.61	28.69	2.00	-15.15
3	1.28	10.58	312.03	11.86	28.41	3.00	-15.06
4	1.21	10.66	313.47	11.80	28.62	4.00	-14.75
5	1.21	10.67	314.01	11.96	28.46	5.00	-5.17
6	1.15	10.69	315.19	12.10	28.66	6.00	-6.08
7	1.20	10.67	314.85	12.58	28.61	7.00	-6.13
8	1.23	10.62	312.63	11.81	28.45	8.00	-5.70
9	1.20	10.61	312.23	11.79	28.52	9.00	-4.79
10	1.14	10.68	313.49	12.00	28.71	10.00	-3.23
11	1.11	10.71	315.92	11.95	28.77	11.00	-1.30
12	1.10	10.73	316.43	11.91	28.96	12.00	-0.22
Averages	1.19	10.66	313.97	11.92	28.63	6.00	-6.80

YTS300.D03 Run 202 - Continued

Total Forces (including tare forces) :

Lift = 313.97 lbs, CL = 0.829
Drag = 11.92 lbs, CD = 0.0315
Moment = 28.63 ft-lbs, CM = 0.151

Tunnel Pressure & Velocity :

Pt = 1.19 psiG = 15.59 psiA
Pv = 10.66 Dpsi, Vt = 39.52 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.49	-0.428
1	0.030	-15.30	1.460
2	0.060	-15.15	1.441
3	0.110	-15.06	1.442
4	0.160	-14.75	1.403
5	0.260	-5.17	0.491
6	0.330	-6.08	0.576
7	0.450	-6.13	0.582
8	0.560	-5.70	0.544
9	0.680	-4.79	0.457
10	0.810	-3.23	0.306
11	0.900	-1.30	0.123
12	0.950	-0.22	0.020

*
EOR

Run number : 282
* tare run for run 202
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.617 ftHgA = 15.43 psiA
Speed manometer = 1.974 ftHgW = 39.75 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.1555	1.7504	-0.0684	-0.0286	0.0063	0.1085	-0.3046
	0.0043	0.0091	0.0179	0.2168	0.0064	0.0022	0.0095
1	0.1450	1.7609	-0.0664	-0.0486	0.0076	0.1086	-0.2951
	0.0061	0.0119	0.0145	0.1991	0.0118	0.0023	0.0106

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	1.17	10.75	-4.13	0.90	-0.03	0.00	-0.70
1	1.11	10.82	-4.37	1.37	-0.05	1.00	-0.65
Averages	1.14	10.78	-4.25	1.13	-0.04	0.50	-0.67

Tare Forces :

Lift = -4.25 lbs, CL = -0.011
Drag = 1.13 lbs, CD = 0.0029
Moment = -0.04 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

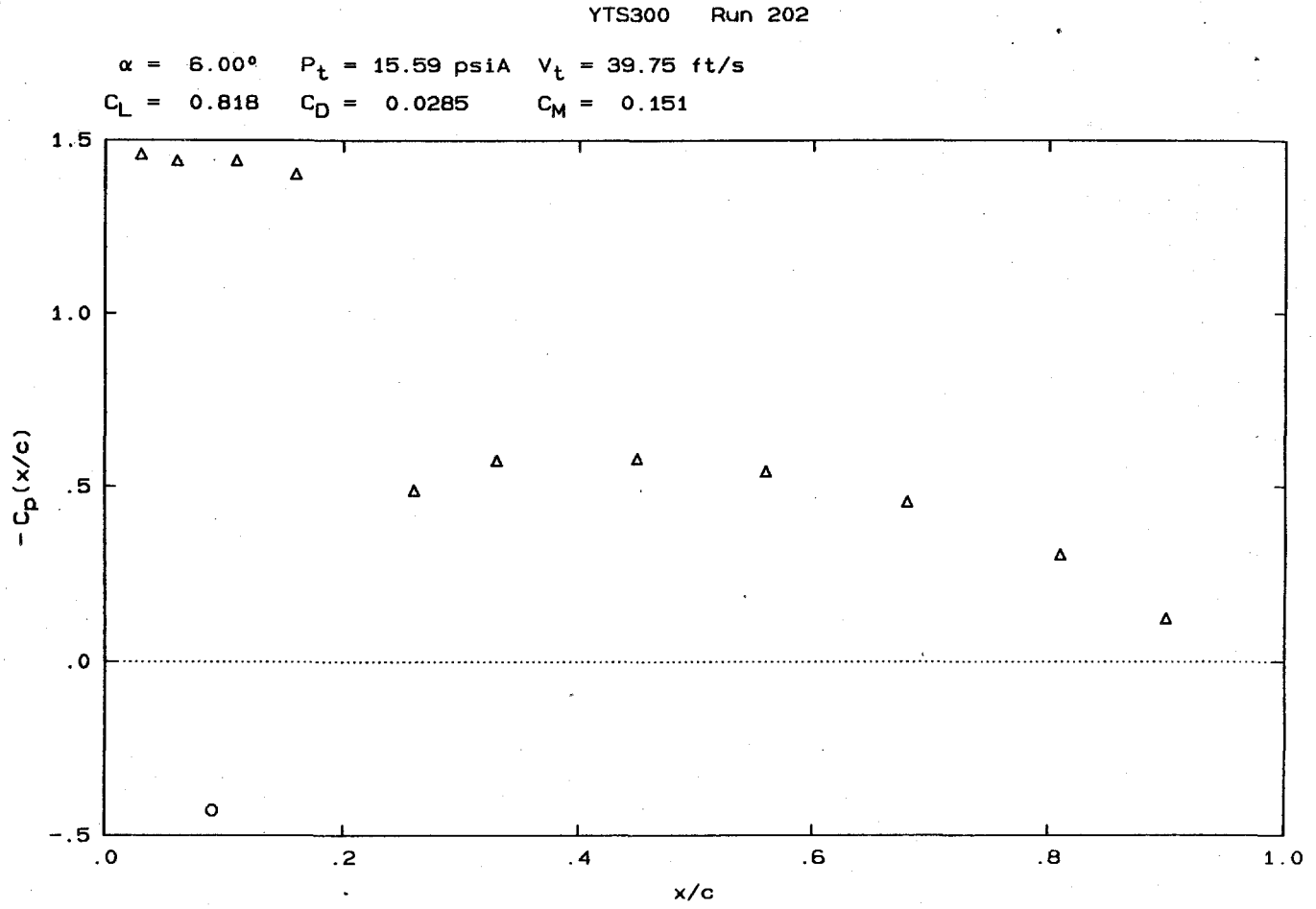
Pt = 1.14 psiG = 15.53 psiA
Pv = 10.78 Dpsi, Vt = 39.75 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 309.72 lbs, CL = 0.818
Drag = 10.79 lbs, CD = 0.0285
Moment = 28.59 ft-lbs, CM = 0.151

EOF YTS300.D03


YTS300 Run 202
α = 6.00° P_t = 15.59 psiA V_t = 39.75 ft/s
C_L = 0.818 C_D = 0.0285 C_M = 0.151
1.5
1.0
.5
.0
-.5
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

YTS301.D03 3-FEB-88

YTS301.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* 40 % cavity
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS301.D03 - Continued

Run number : 203
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.249 ftHgA = 13.25 psiA
Speed manometer = 1.974 ftHgW = 39.74 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.3034	1.7480	-2.8011	-0.5992	-2.6757	0.0078	0.8665
	0.0047	0.0128	0.2155	0.3185	0.2491	0.0020	0.0062
1	-0.3242	1.7585	-2.8181	-0.6232	-2.6494	0.1089	-2.6477
	0.0055	0.0128	0.3200	0.3781	0.2194	0.0023	0.0085
2	-0.2959	1.7319	-2.7465	-0.5628	-2.5954	0.2096	-2.6320
	0.0053	0.0091	0.2081	0.2587	0.1455	0.0024	0.0072
3	-0.3224	1.7397	-2.7483	-0.5809	-2.6547	0.3103	-2.5916
	0.0072	0.0118	0.2205	0.3034	0.1255	0.0024	0.0089
4	-0.3099	1.7363	-2.7672	-0.5848	-2.6221	0.4108	-2.5933
	0.0057	0.0121	0.2279	0.2945	0.1488	0.0021	0.0093
5	-0.3230	1.7553	-2.7705	-0.6024	-2.6397	0.5121	-2.5204
	0.0048	0.0117	0.1809	0.2863	0.1585	0.0024	0.0081
6	-0.3026	1.7409	-2.7544	-0.5859	-2.6716	0.6132	-2.4579
	0.0065	0.0109	0.2123	0.2395	0.2118	0.0019	0.0090
7	-0.3043	1.7442	-2.7777	-0.6005	-2.6471	0.7118	-0.8141
	0.0051	0.0091	0.2124	0.2515	0.1786	0.0030	0.0306
8	-0.3186	1.7411	-2.7970	-0.6031	-2.6676	0.8133	-0.9506
	0.0042	0.0126	0.2847	0.3054	0.2432	0.0033	0.0093
9	-0.3261	1.7444	-2.7795	-0.5977	-2.6391	0.9145	-0.8703
	0.0050	0.0105	0.2093	0.2926	0.2253	0.0028	0.0142
10	-0.3269	1.7442	-2.7815	-0.5693	-2.6624	1.0152	-0.6152
	0.0051	0.0117	0.2928	0.4351	0.1679	0.0012	0.0191
11	-0.3201	1.7488	-2.7954	-0.6183	-2.6355	1.1166	-0.2906
	0.0045	0.0112	0.2360	0.2864	0.2053	0.0047	0.0100
12	-0.3219	1.7476	-2.7975	-0.6140	-2.6604	1.2177	-0.0922
	0.0050	0.0119	0.2177	0.2885	0.2117	0.0019	0.0078

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-1.06	10.69	329.00	14.04	29.94	0.00	4.48
1	-1.16	10.75	331.04	14.60	29.64	1.00	-13.09
2	-1.02	10.59	322.44	13.19	29.04	2.00	-13.01
3	-1.15	10.63	322.66	13.62	29.70	3.00	-12.81
4	-1.09	10.61	324.93	13.70	29.34	4.00	-12.82
5	-1.16	10.73	325.32	14.12	29.53	5.00	-12.45
6	-1.06	10.64	323.39	13.74	29.89	6.00	-12.14
7	-1.06	10.66	326.19	14.07	29.62	7.00	-3.92
8	-1.13	10.64	328.51	14.13	29.84	8.00	-4.60
9	-1.17	10.66	326.40	14.01	29.53	9.00	-4.20
10	-1.17	10.66	326.65	13.34	29.79	10.00	-2.92
11	-1.14	10.69	328.31	14.48	29.48	11.00	-1.30
12	-1.15	10.68	328.57	14.39	29.76	12.00	-0.31
Averages	-1.12	10.66	326.51	13.96	29.63	6.00	-6.85

Total Forces (including tare forces) :

Lift	= 326.51 lbs,	CL =	0.861
Drag	= 13.96 lbs,	CD =	0.0368
Moment	= 29.63 ft-lbs,	CM =	0.156

Tunnel Pressure & Velocity :

Pt	= -1.12 psiG	= 13.29 psiA	
Pv	= 10.66 Dpsi,	Vt = 39.53 ft/s	

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	4.48	-0.425
1	0.030	-13.09	1.233
2	0.060	-13.01	1.245
3	0.110	-12.81	1.220
4	0.160	-12.82	1.224
5	0.260	-12.45	1.176
6	0.330	-12.14	1.156
7	0.450	-3.92	0.372
8	0.560	-4.60	0.438
9	0.680	-4.20	0.399
10	0.810	-2.92	0.278
11	0.900	-1.30	0.123
12	0.950	-0.31	0.029

* tap 1 repeated
*
EOR

YTS301.D03 - Continued

Run number : 283
* tare run for run 203
*
Angle of attack : 6.00 degrees
Tunnel pressure = 2.228 ftHgA = 13.13 psiA
Speed manometer = 1.977 ftHgW = 39.78 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.3271	1.7434	-0.0660	-0.0540	0.0084	0.1087	0.1693
	0.0052	0.0090	0.0441	0.2154	0.0232	0.0023	0.0103
1	-0.3291	1.7523	-0.0660	-0.0625	0.0130	0.1087	0.1753
	0.0057	0.0096	0.0378	0.2282	0.0302	0.0023	0.0099

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-1.20	10.71	-4.42	1.49	-0.06	0.00	1.67
1	-1.21	10.76	-4.42	1.69	-0.11	1.00	1.70
Averages	-1.21	10.73	-4.42	1.59	-0.09	0.50	1.69

Tare Forces :

Lift = -4.42 lbs, CL = -0.012
Drag = 1.59 lbs, CD = 0.0042
Moment = -0.09 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -1.21 psiG = 13.19 psiA
Pv = 10.73 Dpsi, Vt = 39.67 ft/s

*
EOR

Model Forces (excluding tare forces) :

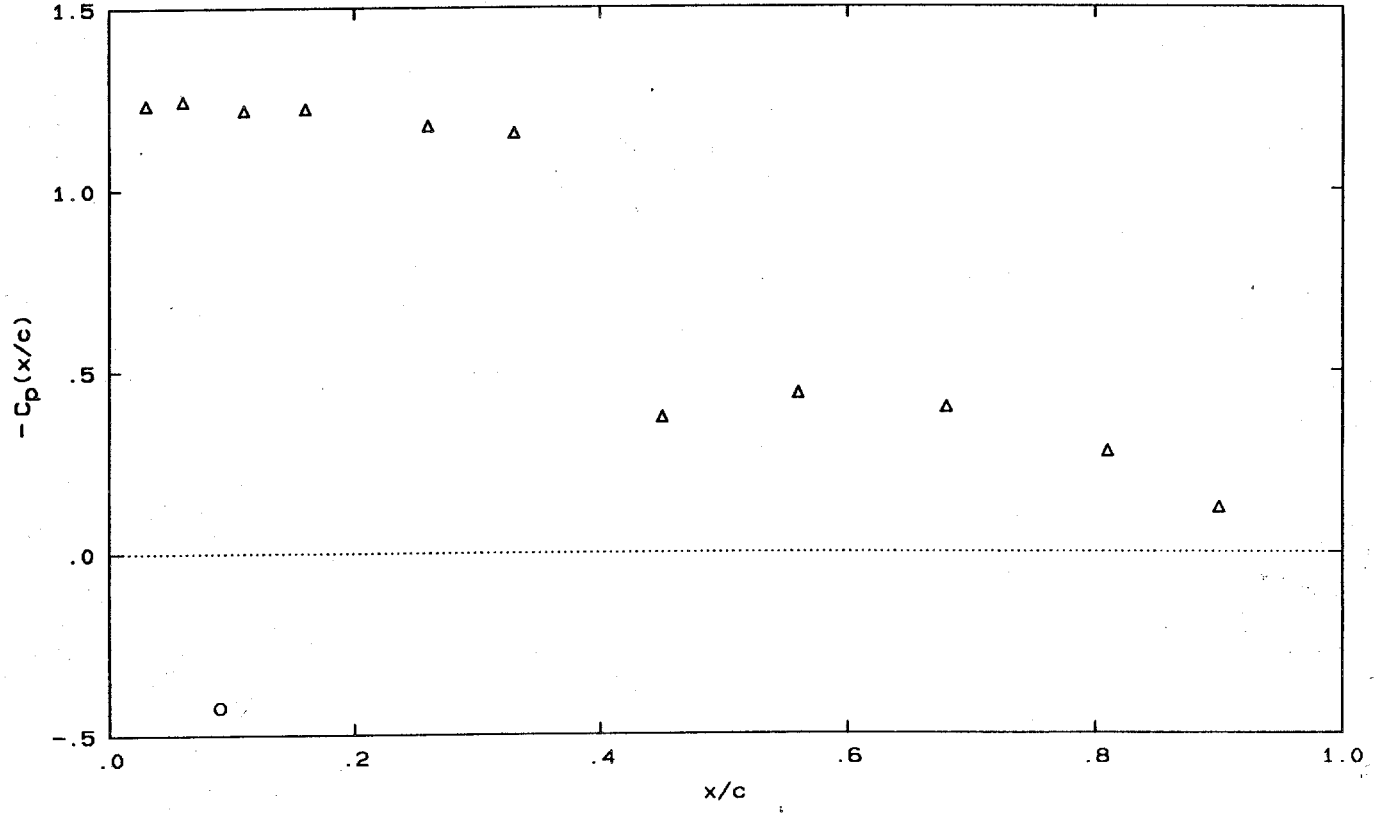
Lift = 322.09 lbs, CL = 0.850
Drag = 12.37 lbs, CD = 0.0327
Moment = 29.55 ft-lbs, CM = 0.156

EOF YTS301.D03

YTS301 Run 203

α = 6.00° P_t = 13.29 psiA V_t = 39.67 ft/s

C_L = 0.850 C_D = 0.0327 C_M = 0.156



YTS302.D03 3-FEB-88

YTS302.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* zero deg. inception
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS302.D03 - Continued

Run number : 204
* midchord cavitation
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.186 ftHgA = 6.99 psiA
Speed manometer = 3.110 ftHgW = 49.89 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.6245	2.7655	-1.1468	-0.2827	0.2244	0.0078	-0.3657
	0.0060	0.0111	0.0140	0.0364	0.0118	0.0020	0.0044
1	-1.6098	2.7325	-1.1426	-0.2883	0.2164	0.1088	-0.2680
	0.0064	0.0144	0.0140	0.0311	0.0287	0.0023	0.0079
2	-1.6190	2.7407	-1.1432	-0.2831	0.2223	0.2097	-0.6263
	0.0060	0.0158	0.0150	0.0467	0.0175	0.0024	0.0029
3	-1.6490	2.7735	-1.1640	-0.2895	0.2233	0.3102	-0.8726
	0.0031	0.0134	0.0128	0.0342	0.0212	0.0023	0.0044
4	-1.6394	2.7679	-1.1586	-0.2930	0.2196	0.4109	-1.0323
	0.0020	0.0141	0.0112	0.0345	0.0177	0.0022	0.0056
5	-1.6146	2.7469	-1.1441	-0.2882	0.2161	0.5119	-1.1745
	0.0096	0.0136	0.0135	0.0328	0.0263	0.0024	0.0057
6	-1.6420	2.7612	-1.1575	-0.2917	0.2189	0.6128	-1.2258
	0.0044	0.0209	0.0175	0.0352	0.0186	0.0019	0.0064
7	-1.6197	2.7315	-1.1461	-0.2831	0.2188	0.7115	-1.2522
	0.0058	0.0139	0.0126	0.0318	0.0172	0.0030	0.0040
8	-1.6405	2.7474	-1.1502	-0.2869	0.2226	0.8124	-1.2799
	0.0034	0.0135	0.0115	0.0302	0.0127	0.0034	0.0057
9	-1.6577	2.7727	-1.1634	-0.2875	0.2251	0.9132	-1.2213
	0.0054	0.0135	0.0166	0.0362	0.0252	0.0029	0.0066
10	-1.6397	2.7689	-1.1515	-0.2978	0.2232	1.0136	-0.8948
	0.0089	0.0147	0.0196	0.0421	0.0319	0.0000	0.0048
11	-1.6550	2.7670	-1.1607	-0.2901	0.2238	1.1146	-0.3134
	0.0035	0.0115	0.0136	0.0364	0.0168	0.0048	0.0031
12	-1.6390	2.7801	-1.1601	-0.2875	0.2205	1.2151	0.0209
	0.0052	0.0216	0.0150	0.0389	0.0207	0.0021	0.0050

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-7.54	16.99	129.93	6.76	-2.45	0.00	-1.68
1	-7.47	16.79	129.43	6.89	-2.36	1.00	-1.19
2	-7.51	16.84	129.50	6.77	-2.43	2.00	-2.98
3	-7.66	17.04	131.99	6.92	-2.44	3.00	-4.21
4	-7.61	17.01	131.34	7.00	-2.40	4.00	-5.01
5	-7.49	16.88	129.61	6.89	-2.36	5.00	-5.72
6	-7.63	16.97	131.21	6.97	-2.39	6.00	-5.98
7	-7.52	16.78	129.85	6.77	-2.39	7.00	-6.11
8	-7.62	16.88	130.34	6.86	-2.43	8.00	-6.25
9	-7.70	17.04	131.92	6.87	-2.46	9.00	-5.96
10	-7.62	17.01	130.49	7.12	-2.44	10.00	-4.32
11	-7.69	17.00	131.60	6.93	-2.45	11.00	-1.42
12	-7.61	17.08	131.52	6.88	-2.41	12.00	0.26
Averages	-7.59	16.95	130.71	6.90	-2.42	6.00	-3.89

YTS302.D03 Run 204 - Continued

Total Forces (including tare forces) :

Lift = 130.71 lbs, CL = 0.217
Drag = 6.90 lbs, CD = 0.0115
Moment = -2.42 ft-lbs, CM = -0.008

Tunnel Pressure & Velocity :

Pt = -7.59 psiG = 6.81 psiA
Pv = 16.95 Dpsi, Vt = 49.84 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.68	0.100
1	0.030	-1.19	0.072
2	0.060	-2.98	0.179
3	0.110	-4.21	0.250
4	0.160	-5.01	0.298
5	0.260	-5.72	0.343
6	0.330	-5.98	0.357
7	0.450	-6.11	0.369
8	0.560	-6.25	0.375
9	0.680	-5.96	0.354
10	0.810	-4.32	0.257
11	0.900	-1.42	0.084
12	0.950	0.26	-0.015

* tap 0 repeated
*
EOR

YTS302.D03 - Continued

Run number : 285
* tare run for run 204
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.178 ftHgA = 6.94 psiA
Speed manometer = 3.085 ftHgW = 49.69 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.6307	2.7424	-0.0837	-0.1063	0.0049	0.1086	1.3741
	0.0057	0.0164	0.0068	0.0474	0.0060	0.0023	0.0078
1	-1.5981	2.7804	-0.0848	-0.1015	0.0063	0.1087	1.3418
	0.0070	0.0169	0.0066	0.0439	0.0134	0.0022	0.0065

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-7.60	16.90	-2.48	2.91	-0.01	0.00	7.70
1	-7.44	17.14	-2.35	2.81	-0.02	1.00	7.53
Averages	-7.52	17.02	-2.41	2.86	-0.02	0.50	7.61

Tare Forces :

Lift = -2.41 lbs, CL = -0.004
Drag = 2.86 lbs, CD = 0.0047
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

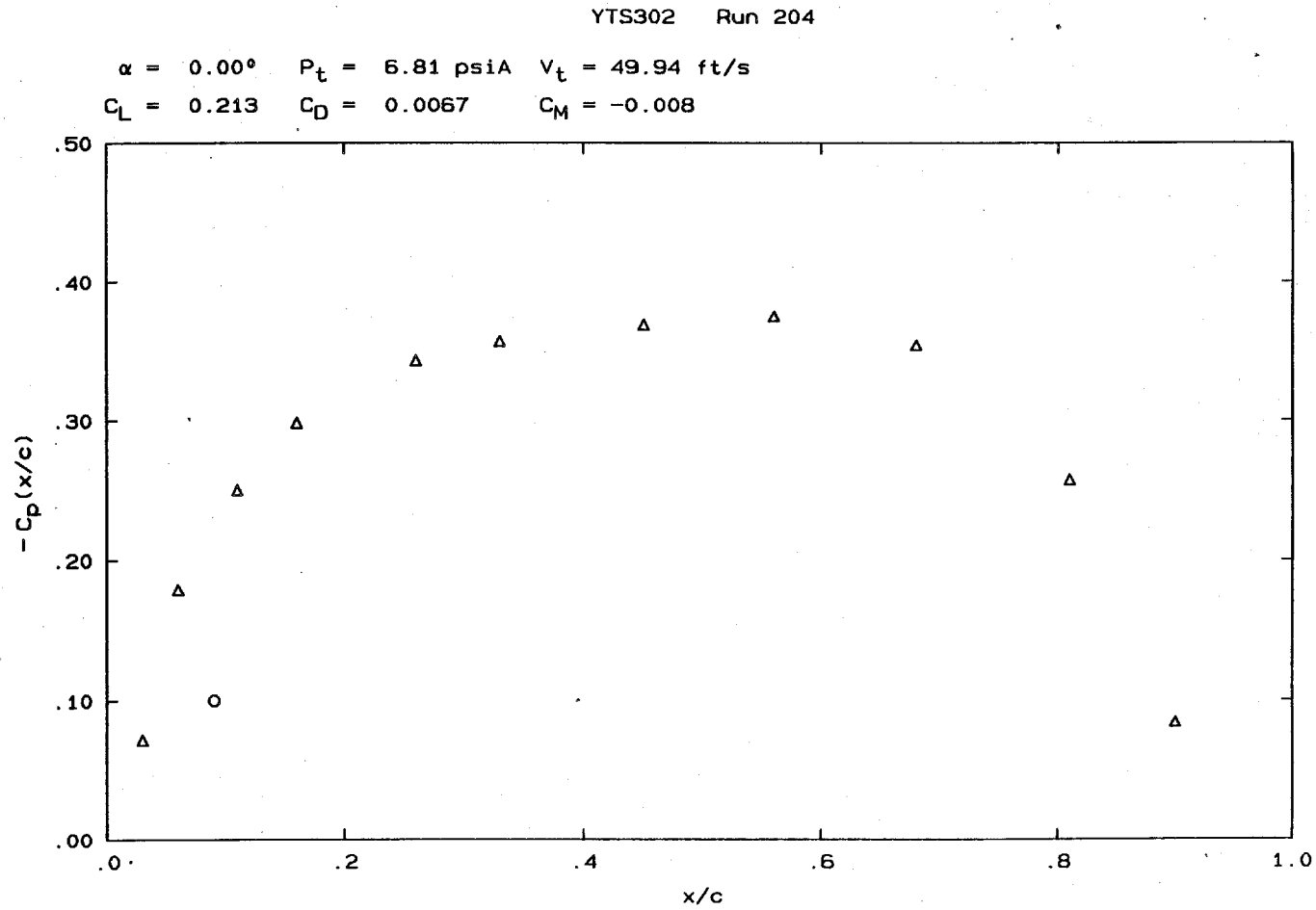
Pt = -7.52 psiG = 6.87 psiA
Pv = 17.02 Dpsi, Vt = 49.94 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 128.30 lbs, CL = 0.213
Drag = 4.04 lbs, CD = 0.0067
Moment = -2.43 ft-lbs, CM = -0.008

EOF YTS302.D03


YTS302 Run 204
α = 0.00° Pt = 6.81 psiA Vt = 49.94 ft/s
CL = 0.213 CD = 0.0067 CM = -0.008
.50
.40
.30
.20
.10
.00
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS303.D03 3-FEB-88

YTS303.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* .95 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS303.D03 - Continued

Run number : 205
* cavity induced by the pressure taps
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.085 ftHgA = 6.40 psiA
Speed manometer = 3.075 ftHgW = 49.61 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.7241	2.7366	-1.1744	-0.2992	0.2354	0.0078	-0.3547
	0.0027	0.0118	0.0218	0.0440	0.0453	0.0022	0.0044
1	-1.7237	2.7457	-1.1599	-0.3035	0.2427	0.1089	-0.2599
	0.0059	0.0153	0.0164	0.0377	0.0317	0.0023	0.0045
2	-1.7275	2.7477	-1.1649	-0.2957	0.2430	0.2097	-0.6323
	0.0036	0.0158	0.0165	0.0379	0.0291	0.0024	0.0043
3	-1.7314	2.7551	-1.1755	-0.2920	0.2412	0.3103	-0.8710
	0.0020	0.0171	0.0176	0.0418	0.0361	0.0023	0.0066
4	-1.7287	2.7446	-1.1573	-0.2962	0.2375	0.4109	-1.0233
	0.0042	0.0126	0.0155	0.0394	0.0224	0.0021	0.0030
5	-1.7208	2.7424	-1.1524	-0.2944	0.2342	0.5120	-1.1736
	0.0018	0.0129	0.0123	0.0312	0.0147	0.0023	0.0035
6	-1.7572	2.7786	-1.1786	-0.3002	0.2756	0.6129	-1.1819
	0.0086	0.0112	0.0387	0.0605	0.0732	0.0018	0.0084
7	-1.7234	2.7463	-1.1580	-0.2892	0.2380	0.7114	-1.1714
	0.0033	0.0125	0.0235	0.0294	0.0274	0.0028	0.0036
8	-1.7539	2.7680	-1.1879	-0.3018	0.2500	0.8123	-1.1844
	0.0094	0.0130	0.0254	0.0575	0.1858	0.0035	0.0126
9	-1.7192	2.7590	-1.1777	-0.2891	0.2268	0.9133	-1.1861
	0.0030	0.0135	0.0186	0.0425	0.0381	0.0030	0.0080
10	-1.7394	2.7709	-1.1926	-0.3035	0.2520	1.0136	-1.0743
	0.0059	0.0166	0.0230	0.0573	0.0713	0.0007	0.0064
11	-1.7305	2.7618	-1.1836	-0.2969	0.2627	1.1147	-0.3823
	0.0049	0.0163	0.0226	0.0400	0.0480	0.0048	0.0106
12	-1.7136	2.7413	-1.1718	-0.2924	0.2378	1.2152	0.0294
	0.0104	0.0171	0.0189	0.0498	0.0286	0.0020	0.0051

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.03	16.81	133.25	7.14	-2.58	0.00	-1.62
1	-8.03	16.87	131.50	7.24	-2.66	1.00	-1.15
2	-8.05	16.88	132.10	7.06	-2.66	2.00	-3.01
3	-8.06	16.93	133.37	6.97	-2.64	3.00	-4.20
4	-8.05	16.86	131.19	7.07	-2.60	4.00	-4.97
5	-8.01	16.85	130.60	7.03	-2.56	5.00	-5.72
6	-8.19	17.07	133.74	7.16	-3.03	6.00	-5.76
7	-8.03	16.87	131.27	6.91	-2.61	7.00	-5.71
8	-8.18	17.01	134.86	7.20	-2.74	8.00	-5.77
9	-8.01	16.95	133.64	6.91	-2.48	9.00	-5.78
10	-8.10	17.03	135.43	7.24	-2.76	10.00	-5.22
11	-8.06	16.97	134.35	7.08	-2.88	11.00	-1.76
12	-7.98	16.84	132.93	6.98	-2.60	12.00	0.30
Averages	-8.06	16.92	132.98	7.08	-2.68	6.00	-3.87

Total Forces (including tare forces) :

Lift	= 132.98 lbs,	CL =	0.221
Drag	= 7.08 lbs,	CD =	0.0118
Moment	= -2.68 ft-lbs,	CM =	-0.009

Tunnel Pressure & Velocity :

Pt	= -8.06 psiG	=	6.35 psiA
Pv	= 16.92 Dpsi,	Vt =	49.80 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.62	0.098
1	0.030	-1.15	0.069
2	0.060	-3.01	0.181
3	0.110	-4.20	0.252
4	0.160	-4.97	0.298
5	0.260	-5.72	0.344
6	0.330	-5.76	0.342
7	0.450	-5.71	0.343
8	0.560	-5.77	0.344
9	0.680	-5.78	0.345
10	0.810	-5.22	0.311
11	0.900	-1.76	0.105
12	0.950	0.30	-0.018

*
EOR

Run number : 286
* tare run for run 205
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.095 ftHgA = 6.46 psiA
Speed manometer = 3.103 ftHgW = 49.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.7169	2.7610	-0.0839	-0.1013	0.0056	0.1087	1.4580
	0.0047	0.0161	0.0061	0.0359	0.0077	0.0023	0.0107
1	-1.6874	2.7316	-0.0841	-0.1064	0.0051	0.1087	1.4301
	0.0054	0.0227	0.0072	0.0292	0.0047	0.0023	0.0056

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.02	17.02	-2.45	2.80	-0.02	0.00	8.11
1	-7.88	16.83	-2.43	2.91	-0.01	1.00	7.98
Averages	-7.95	16.93	-2.44	2.86	-0.01	0.50	8.05

Tare Forces :

Lift = -2.44 lbs, CL = -0.004
Drag = 2.86 lbs, CD = 0.0047
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

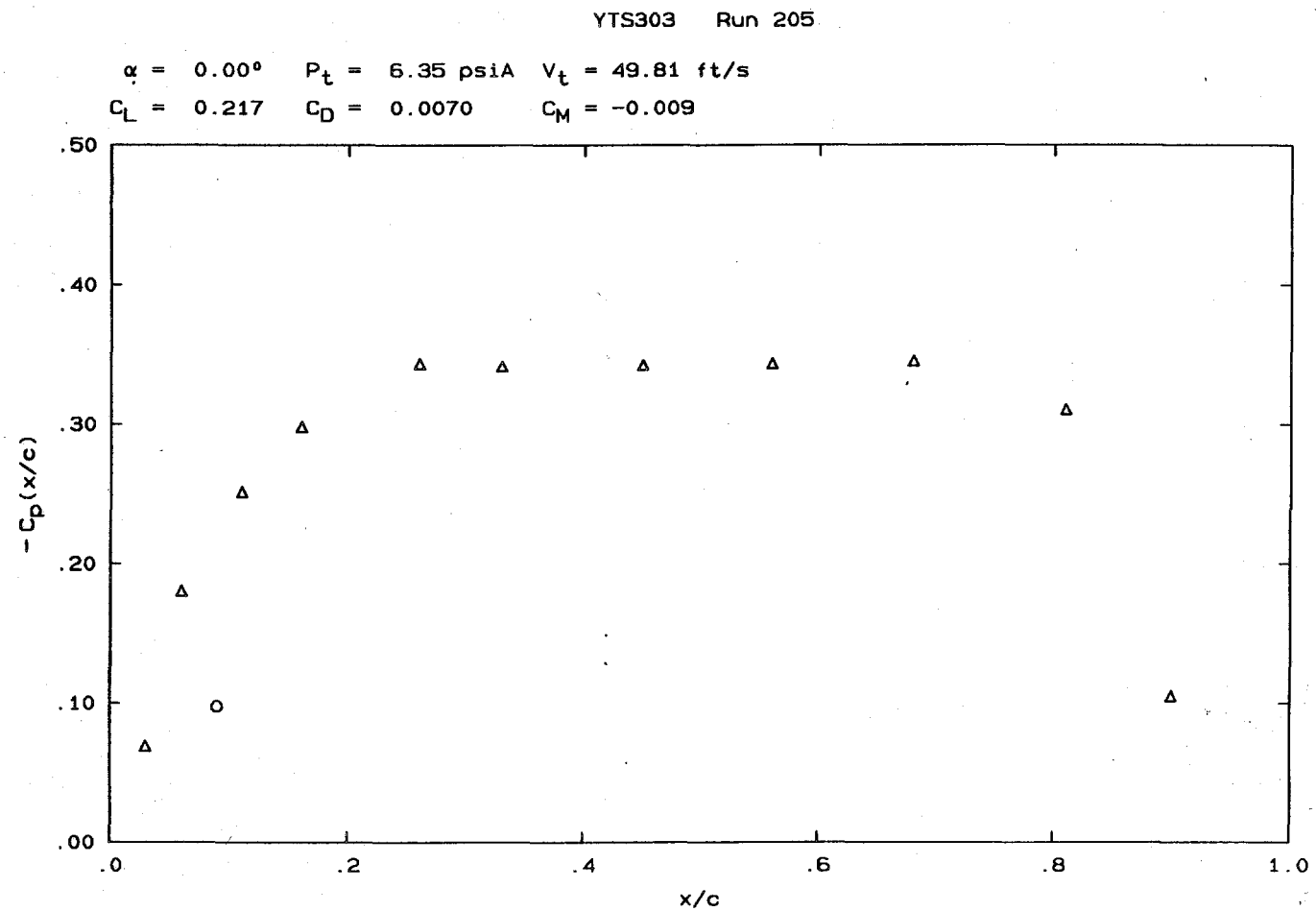
Pt = -7.95 psiG = 6.44 psiA
Pv = 16.93 Dpsi, Vt = 49.81 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 130.54 lbs, CL = 0.217
Drag = 4.22 lbs, CD = 0.0070
Moment = -2.69 ft-lbs, CM = -0.009

EOF YTS303.D03


YTS303 Run 205
α = 0.00° Pt = 6.35 psiA Vt = 49.81 ft/s
CL = 0.217 CD = 0.0070 CM = -0.009
.50
.40
.30
.20
.10
.00
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS304.D03 3-FEB-88

YTS304.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* .9 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS304.D03 - Continued

Run number : 206
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.047 ftHgA = 6.17 psiA
Speed manometer = 3.073 ftHgW = 49.59 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.7917	2.7572	-1.1730	-0.3398	0.3420	0.0079	-0.3587
	0.0062	0.0172	0.0561	0.0843	0.2869	0.0020	0.0042
1	-1.8005	2.7606	-1.1760	-0.3318	0.3458	0.1090	-0.2734
	0.0048	0.0157	0.0525	0.1271	0.3891	0.0023	0.0067
2	-1.7906	2.7507	-1.1664	-0.3305	0.2889	0.2097	-0.6232
	0.0065	0.0156	0.0480	0.0679	0.1657	0.0024	0.0049
3	-1.7805	2.7441	-1.1702	-0.3264	0.2948	0.3103	-0.8597
	0.0071	0.0096	0.0428	0.0853	0.0939	0.0023	0.0058
4	-1.7988	2.7572	-1.1650	-0.3320	0.2899	0.4109	-1.0065
	0.0056	0.0157	0.0460	0.0845	0.1805	0.0022	0.0099
5	-1.7910	2.7804	-1.1767	-0.3412	0.3400	0.5118	-1.1404
	0.0000	0.0141	0.0554	0.1099	0.2516	0.0024	0.0040
6	-1.7980	2.7511	-1.1439	-0.3367	0.2746	0.6128	-1.1436
	0.0033	0.0101	0.0470	0.0714	0.1521	0.0019	0.0060
7	-1.7708	2.7587	-1.1671	-0.3194	0.2810	0.7113	-1.1230
	0.0058	0.0159	0.0418	0.0882	0.0944	0.0029	0.0045
8	-1.7876	2.7573	-1.1669	-0.3320	0.3132	0.8123	-1.1305
	0.0027	0.0159	0.0549	0.0963	0.1757	0.0036	0.0050
9	-1.7827	2.7574	-1.1612	-0.3322	0.3110	0.9133	-1.1431
	0.0057	0.0087	0.0488	0.0818	0.2429	0.0029	0.0067
10	-1.7905	2.7494	-1.1692	-0.3252	0.2768	1.0136	-1.0370
	0.0006	0.0160	0.0452	0.0832	0.3013	0.0008	0.0060
11	-1.7961	2.7654	-1.1708	-0.3479	0.3360	1.1146	-0.5709
	0.0047	0.0162	0.0526	0.1111	0.1995	0.0046	0.0166
12	-1.7952	2.7549	-1.1667	-0.3396	0.2867	1.2152	-0.0904
	0.0033	0.0161	0.0491	0.0978	0.1972	0.0019	0.0114

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.36	16.94	133.07	8.08	-3.77	0.00	-1.64
1	-8.40	16.96	133.43	7.89	-3.82	1.00	-1.22
2	-8.36	16.90	132.28	7.87	-3.18	2.00	-2.96
3	-8.31	16.86	132.73	7.77	-3.24	3.00	-4.15
4	-8.40	16.94	132.11	7.90	-3.19	4.00	-4.88
5	-8.36	17.09	133.51	8.11	-3.75	5.00	-5.55
6	-8.39	16.90	129.57	8.02	-3.02	6.00	-5.57
7	-8.26	16.95	132.36	7.61	-3.09	7.00	-5.46
8	-8.34	16.94	132.33	7.90	-3.45	8.00	-5.50
9	-8.32	16.94	131.65	7.90	-3.43	9.00	-5.56
10	-8.35	16.89	132.61	7.74	-3.04	10.00	-5.03
11	-8.38	16.99	132.80	8.27	-3.71	11.00	-2.70
12	-8.38	16.93	132.31	8.08	-3.15	12.00	-0.30
Averages	-8.35	16.94	132.41	7.94	-3.37	6.00	-3.89

Total Forces (including tare forces) :

Lift = 132.41 lbs, CL = 0.220
Drag = 7.94 lbs, CD = 0.0132
Moment = -3.37 ft-lbs, CM = -0.011

Tunnel Pressure & Velocity :

Pt = -8.35 psiG = 6.05 psiA
Pv = 16.94 Dpsi, Vt = 49.83 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.64	0.098
1	0.030	-1.22	0.073
2	0.060	-2.96	0.178
3	0.110	-4.15	0.249
4	0.160	-4.88	0.292
5	0.260	-5.55	0.329
6	0.330	-5.57	0.334
7	0.450	-5.46	0.327
8	0.560	-5.50	0.329
9	0.680	-5.56	0.333
10	0.810	-5.03	0.302
11	0.900	-2.70	0.161
12	0.950	-0.30	0.018

*
EOR

YTS304.D03 - Continued

Run number : 287
* tare run for run 206
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.035 ftHgA = 6.10 psiA
Speed manometer = 3.130 ftHgW = 50.05 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.7609	2.7661	-0.0828	-0.1127	0.0068	0.1087	1.5027
	0.0086	0.0116	0.0090	0.0519	0.0082	0.0023	0.0109
1	-1.7610	2.7698	-0.0837	-0.1078	0.0051	0.1086	1.4992
	0.0077	0.0190	0.0081	0.0471	0.0057	0.0023	0.0063

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.24	17.05	-2.59	3.07	-0.03	0.00	8.34
1	-8.24	17.07	-2.48	2.95	-0.01	1.00	8.32
Averages	-8.24	17.06	-2.54	3.01	-0.02	0.50	8.33

Tare Forces :

Lift = -2.54 lbs, CL = -0.004
Drag = 3.01 lbs, CD = 0.0050
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

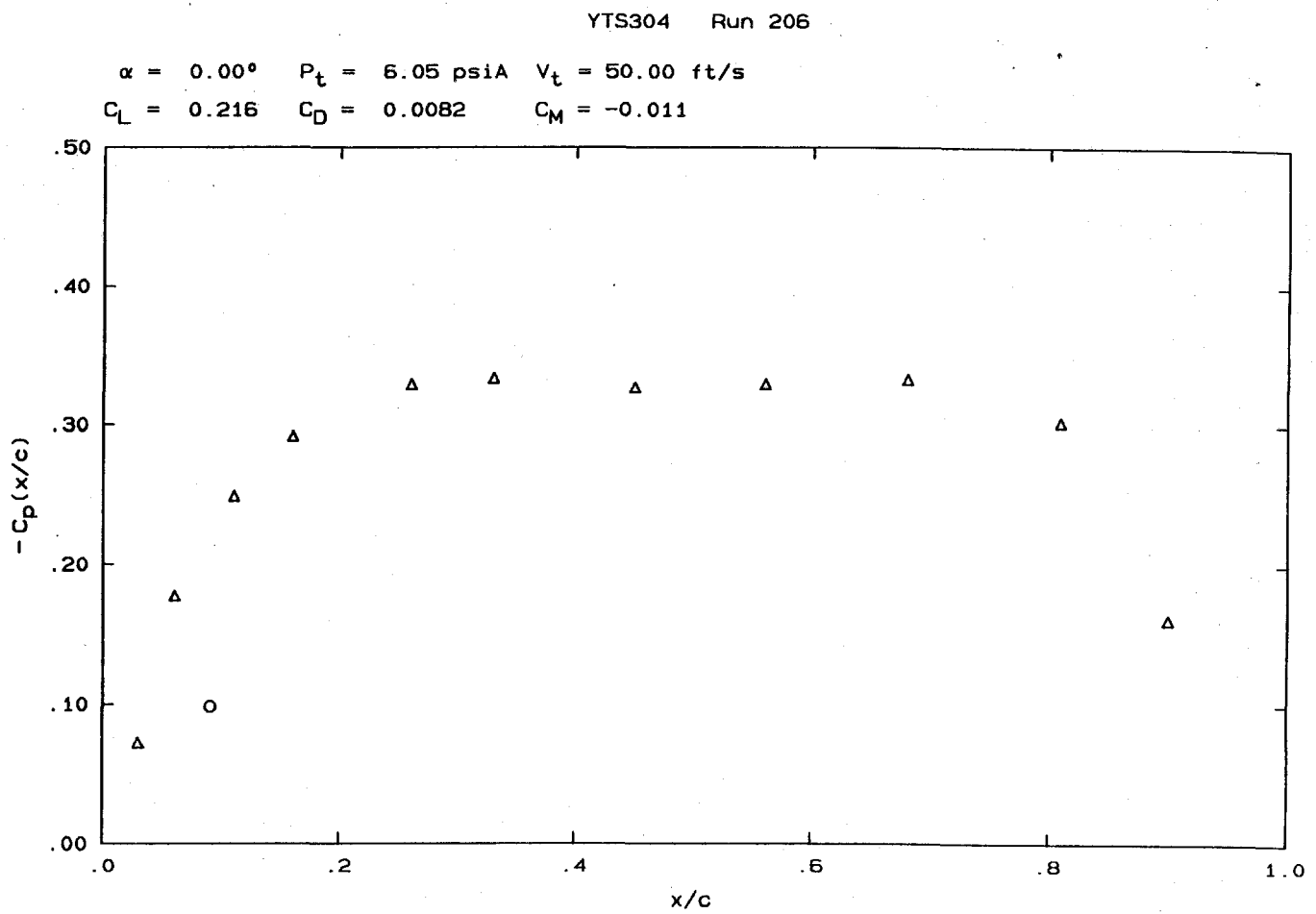
Pt = -8.24 psiG = 6.16 psiA
Pv = 17.06 Dpsi, Vt = 50.00 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 129.87 lbs, CL = 0.216
Drag = 4.93 lbs, CD = 0.0082
Moment = -3.39 ft-lbs, CM = -0.011

EOF YTS304.D03


YTS304 Run 206
α = 0.00° Pt = 6.05 psiA Vt = 50.00 ft/s
CL = 0.216 CD = 0.0082 CM = -0.011
.50
.40
.30
.20
.10
.00
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS305.D03 3-FEB-88

YTS305.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* .85 sigma
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS305.D03 - Continued

Run number : 207
*
Angle of attack : 0.00 degrees
Tunnel pressure = 0.970 ftHgA = 5.71 psiA
Speed manometer = 3.086 ftHgW = 49.70 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.8723	2.7558	-1.0876	-0.3870	0.4218	0.0078	-0.4138
	0.0016	0.0172	0.0701	0.1058	0.3422	0.0020	0.0059
1	-1.8767	2.7527	-1.0508	-0.3818	0.5092	0.1089	-0.1764
	0.0011	0.0166	0.0747	0.1169	0.3493	0.0022	0.0052
2	-1.8535	2.7637	-1.0946	-0.3940	0.4083	0.2096	-0.5752
	0.0066	0.0098	0.0773	0.1149	0.5075	0.0024	0.0032
3	-1.8610	2.7634	-1.0795	-0.3871	0.4435	0.3101	-0.8157
	0.0041	0.0209	0.0780	0.1054	0.2243	0.0023	0.0044
4	-1.8673	2.7728	-1.0520	-0.3916	0.4140	0.4108	-0.9619
	0.0028	0.0185	0.0886	0.1162	0.4569	0.0022	0.0065
5	-1.8728	2.7665	-1.0387	-0.3999	0.4116	0.5118	-1.0674
	0.0046	0.0180	0.1096	0.1212	0.6860	0.0024	0.0066
6	-1.8577	2.7580	-1.0952	-0.3848	0.4517	0.6128	-1.0818
	0.0053	0.0177	0.0784	0.0817	0.3600	0.0019	0.0051
7	-1.8426	2.7537	-1.1070	-0.3766	0.4104	0.7113	-1.0623
	0.0061	0.0107	0.0713	0.1161	0.2622	0.0029	0.0056
8	-1.8573	2.7587	-1.0835	-0.3590	0.3966	0.8123	-1.0762
	0.0060	0.0143	0.0631	0.0943	0.2276	0.0035	0.0053
9	-1.8418	2.7542	-1.0929	-0.3819	0.4309	0.9132	-1.0770
	0.0110	0.0164	0.0565	0.0747	0.1974	0.0028	0.0079
10	-1.8551	2.7748	-1.0975	-0.3717	0.3983	1.0136	-0.9463
	0.0079	0.0154	0.0810	0.1113	0.3023	0.0004	0.0093
11	-1.8409	2.7531	-1.1057	-0.3785	0.3813	1.1146	-0.6355
	0.0063	0.0130	0.0614	0.0709	0.2212	0.0049	0.0054
12	-1.8481	2.7498	-1.0957	-0.3766	0.3135	1.2151	-0.2462
	0.0070	0.0172	0.0568	0.0757	0.2684	0.0018	0.0066

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.76	16.93	122.80	9.19	-4.67	0.00	-1.92
1	-8.78	16.91	118.37	9.06	-5.65	1.00	-0.73
2	-8.66	16.98	123.64	9.35	-4.52	2.00	-2.73
3	-8.70	16.98	121.82	9.19	-4.91	3.00	-3.93
4	-8.73	17.04	118.52	9.31	-4.58	4.00	-4.66
5	-8.76	17.00	116.92	9.50	-4.55	5.00	-5.19
6	-8.68	16.95	123.71	9.13	-5.00	6.00	-5.26
7	-8.61	16.92	125.13	8.94	-4.54	7.00	-5.16
8	-8.68	16.95	122.31	8.54	-4.38	8.00	-5.23
9	-8.61	16.92	123.43	9.06	-4.77	9.00	-5.23
10	-8.67	17.05	123.99	8.83	-4.40	10.00	-4.58
11	-8.60	16.92	124.98	8.99	-4.21	11.00	-3.03
12	-8.64	16.90	123.78	8.96	-3.45	12.00	-1.08
Averages	-8.68	16.96	122.30	9.08	-4.59	6.00	-3.75

Total Forces (including tare forces) :

Lift	= 122.30 lbs,	CL =	0.203
Drag	= 9.08 lbs,	CD =	0.0151
Moment	= -4.59 ft-lbs,	CM =	-0.015

Tunnel Pressure & Velocity :

Pt	= -8.68 psiG	=	5.72 psiA
Pv	= 16.96 Dpsi,	Vt =	49.85 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.92	0.115
1	0.030	-0.73	0.044
2	0.060	-2.73	0.163
3	0.110	-3.93	0.234
4	0.160	-4.66	0.277
5	0.260	-5.19	0.309
6	0.330	-5.26	0.314
7	0.450	-5.16	0.309
8	0.560	-5.23	0.313
9	0.680	-5.23	0.313
10	0.810	-4.58	0.272
11	0.900	-3.03	0.181
12	0.950	-1.08	0.065

*
EOR

YTS305.D03 - Continued

Run number : 288
* tare run for run 207
*
Angle of attack : 0.00 degrees
Tunnel pressure = 0.983 ftHgA = 5.80 psiA
Speed manometer = 3.103 ftHgW = 49.83 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.8563	2.7608	-0.0860	-0.1063	0.0082	0.1087	1.5825
	0.0132	0.0285	0.0103	0.0716	0.0120	0.0022	0.0105
1	-1.8546	2.7707	-0.0835	-0.1130	0.0083	0.1087	1.5885
	0.0060	0.0267	0.0105	0.0696	0.0169	0.0022	0.0085

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.70	17.02	-2.20	2.91	-0.05	0.00	8.74
1	-8.70	17.08	-2.51	3.07	-0.05	1.00	8.77
Averages	-8.70	17.05	-2.35	2.99	-0.05	0.50	8.75

Tare Forces :

Lift = -2.35 lbs, CL = -0.004
Drag = 2.99 lbs, CD = 0.0049
Moment = -0.05 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

Pt = -8.70 psiG = 5.69 psiA
Pv = 17.05 Dpsi, Vt = 49.98 ft/s

*
EOR

Model Forces (excluding tare forces) :

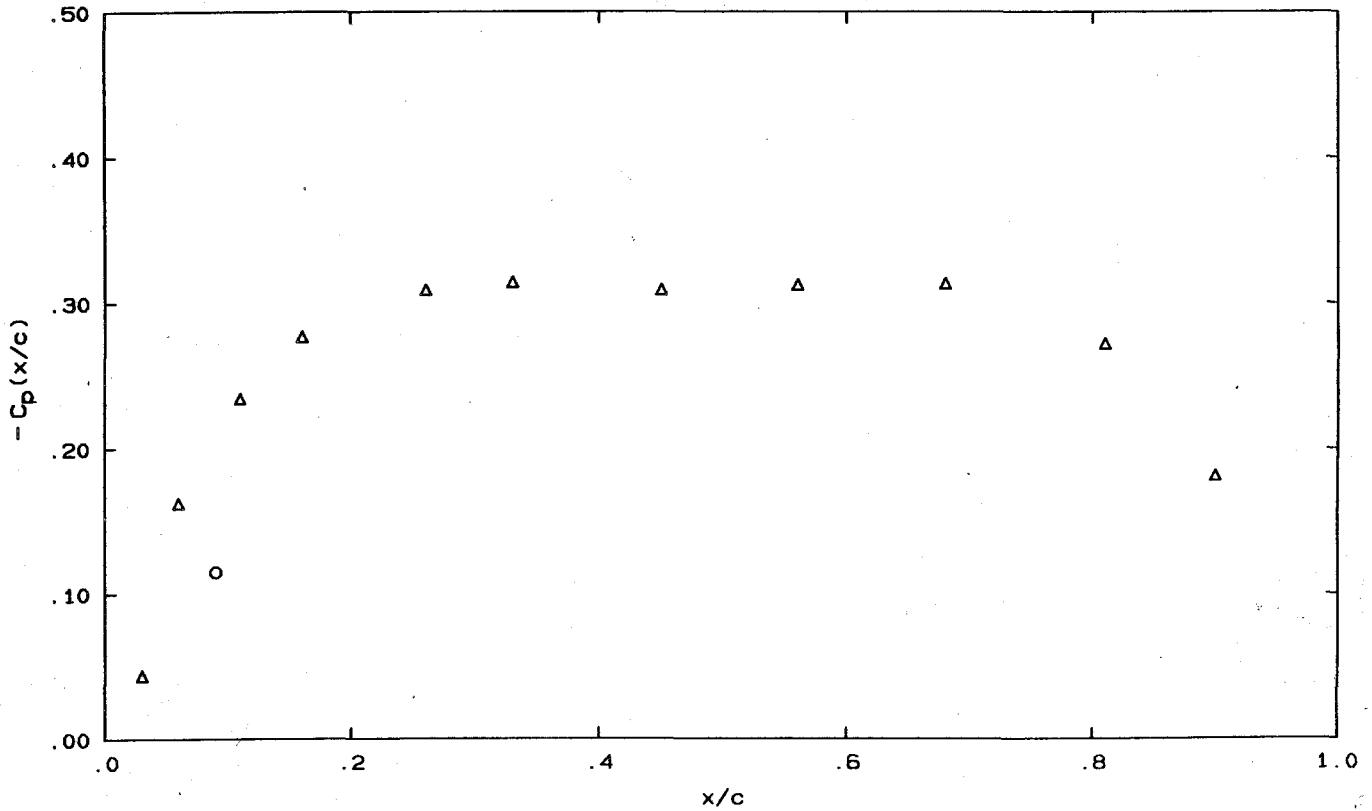
Lift = 119.95 lbs, CL = 0.199
Drag = 6.09 lbs, CD = 0.0101
Moment = -4.64 ft-lbs, CM = -0.015

EOF YTS305.D03

YTS305 Run 207

α = 0.00° P_t = 5.72 psiA V_t = 49.98 ft/s

C_L = 0.199 C_D = 0.0101 C_M = -0.015



```
YTS306.D03      3-FEB-88


YTS306.dat     25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* .8 sigma
* tap 5 triggers cavitation
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.444 ft HgA,  = 14.40 psiA
Water temperature :  25.80  C
Water air content :   0.00  ml/lt



YTS314.dat     06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure  :   2.442 ft HgA,  = 14.39 psiA
Water temperature :   0.00  C
Water air content :   0.00  ml/lt
```

Run number : 208
*
Angle of attack : 0.00 degrees
Tunnel pressure = 0.919 ftHgA = 5.42 psiA
Speed manometer = 3.106 ftHgW = 49.86 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.8949	2.7375	-1.0322	-0.4031	0.3882	0.0078	-0.4187
	0.0082	0.0223	0.0848	0.1028	0.2296	0.0019	0.0087
1	-1.8926	2.7328	-1.0436	-0.3939	0.3719	0.1088	-0.1802
	0.0076	0.0109	0.0882	0.1168	0.2877	0.0022	0.0087
2	-1.9143	2.7520	-0.9880	-0.3948	0.4437	0.2096	-0.5205
	0.0082	0.0128	0.1055	0.1137	0.2376	0.0023	0.0126
3	-1.9022	2.7507	-1.0084	-0.4051	0.4613	0.3101	-0.7735
	0.0078	0.0121	0.1003	0.1165	0.2703	0.0023	0.0064
4	-1.9062	2.7494	-1.0181	-0.4149	0.4419	0.4108	-0.9160
	0.0050	0.0116	0.0944	0.1216	0.2489	0.0022	0.0041
5	-1.8890	2.7439	-1.0342	-0.4032	0.4326	0.5118	-1.0460
	0.0082	0.0158	0.0715	0.0869	0.2778	0.0024	0.0100
6	-1.9166	2.7678	-0.9583	-0.4378	0.4860	0.6128	-1.0448
	0.0077	0.0137	0.1059	0.1176	0.4440	0.0019	0.0046
7	-1.9100	2.7482	-1.0300	-0.4006	0.4450	0.7113	-0.9972
	0.0081	0.0167	0.0973	0.1042	0.3746	0.0028	0.0089
8	-1.9057	2.7441	-0.9816	-0.4080	0.4723	0.8122	-1.0044
	0.0091	0.0158	0.0980	0.1300	0.3004	0.0036	0.0056
9	-1.9091	2.7520	-0.9984	-0.4320	0.4400	0.9132	-0.9866
	0.0083	0.0132	0.1043	0.1163	0.3375	0.0030	0.0063
10	-1.9066	2.7410	-0.9830	-0.3982	0.4093	1.0135	-0.8940
	0.0061	0.0133	0.0916	0.1074	0.4829	0.0009	0.0028
11	-1.9286	2.7598	-0.9343	-0.4207	0.4692	1.1146	-0.7123
	0.0062	0.0113	0.1165	0.1393	0.4671	0.0048	0.0078
12	-1.9217	2.7497	-0.9981	-0.4152	0.5112	1.2150	-0.4869
	0.0079	0.0167	0.0806	0.1049	0.2359	0.0021	0.0204

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.87	16.82	116.14	9.58	-4.29	0.00	-1.94
1	-8.86	16.79	117.52	9.36	-4.11	1.00	-0.75
2	-8.96	16.91	110.83	9.39	-4.91	2.00	-2.45
3	-8.90	16.90	113.28	9.62	-5.11	3.00	-3.72
4	-8.92	16.89	114.45	9.85	-4.89	4.00	-4.43
5	-8.84	16.86	116.38	9.57	-4.79	5.00	-5.08
6	-8.97	17.01	107.25	10.40	-5.38	6.00	-5.07
7	-8.94	16.89	115.88	9.51	-4.93	7.00	-4.84
8	-8.92	16.86	110.06	9.69	-5.23	8.00	-4.87
9	-8.94	16.91	112.08	10.25	-4.87	9.00	-4.78
10	-8.92	16.84	110.23	9.47	-4.52	10.00	-4.32
11	-9.03	16.96	104.37	10.00	-5.19	11.00	-3.41
12	-9.00	16.90	112.04	9.85	-5.67	12.00	-2.28
Averages	-8.93	16.89	112.39	9.74	-4.92	6.00	-3.69

YTS306.D03 Run 208 - Continued

Total Forces (including tare forces) :

Lift	= 112.39 lbs,	CL =	0.187
Drag	= 9.74 lbs,	CD =	0.0162
Moment	= -4.92 ft-lbs,	CM =	-0.016

Tunnel Pressure & Velocity :

Pt	= -8.93 psiG	=	5.48 psiA
Pv	= 16.89 Dpsi,	Vt =	49.75 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.94	0.117
1	0.030	-0.75	0.045
2	0.060	-2.45	0.147
3	0.110	-3.72	0.223
4	0.160	-4.43	0.266
5	0.260	-5.08	0.305
6	0.330	-5.07	0.302
7	0.450	-4.84	0.290
8	0.560	-4.87	0.293
9	0.680	-4.78	0.287
10	0.810	-4.32	0.260
11	0.900	-3.41	0.204
12	0.950	-2.28	0.137

* taps 5 and 6 repeated
*
EOR

YTS306.D03 - Continued

Run number : 289
* tare run for run 208
*
Angle of attack : 0.00 degrees
Tunnel pressure = 0.909 ftHgA = 5.36 psiA
Speed manometer = 3.099 ftHgW = 49.80 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-1.9130	2.7780	-0.0857	-0.0999	0.0054	0.1087	1.6339
	0.0112	0.0128	0.0118	0.0956	0.0255	0.0023	0.0054
1	-1.8805	2.7496	-0.0864	-0.1137	0.0063	0.1088	1.6120
	0.0041	0.0194	0.0121	0.0935	0.0077	0.0022	0.0056

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-8.98	17.12	-2.24	2.77	-0.01	0.00	8.99
1	-8.82	16.95	-2.15	3.09	-0.03	1.00	8.89
Averages	-8.90	17.03	-2.20	2.93	-0.02	0.50	8.94

Tare Forces :

Lift = -2.20 lbs, CL = -0.004
Drag = 2.93 lbs, CD = 0.0048
Moment = -0.02 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

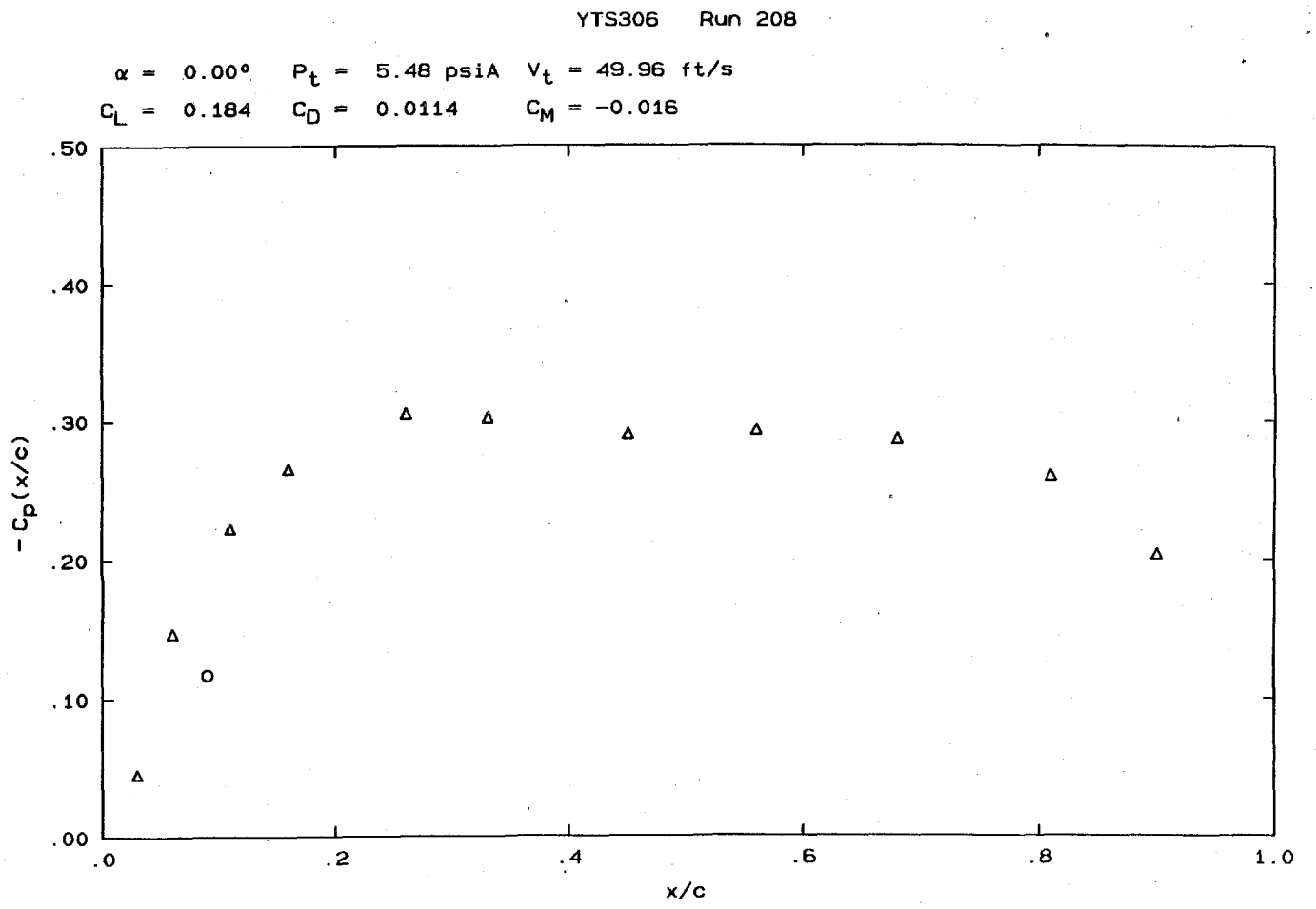
Pt = -8.90 psiG = 5.49 psiA
Pv = 17.03 Dpsi, Vt = 49.96 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 110.19 lbs, CL = 0.184
Drag = 6.81 lbs, CD = 0.0114
Moment = -4.93 ft-lbs, CM = -0.016

EOF YTS306.D03


YTS306 Run 208
α = 0.00° Pt = 5.48 psiA Vt = 49.96 ft/s
CL = 0.184 CD = 0.0114 CM = -0.016
.50
.40
.30
.20
.10
.00
- Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS307.D03 3-FEB-88

YTS307.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* fully wetted case
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS307.D03 - Continued

Run number : 209
*
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.999 ftHgA = 11.78 psiA
Speed manometer = 3.096 ftHgW = 49.77 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.6271	2.7476	-1.0674	-0.3245	0.2509	0.0077	-0.3875
	0.0036	0.0106	0.0115	0.0347	0.0193	0.0020	0.0049
1	-0.6201	2.7473	-1.0727	-0.3303	0.2504	0.1089	-0.2290
	0.0044	0.0139	0.0121	0.0367	0.0135	0.0023	0.0065
2	-0.6118	2.7477	-1.0637	-0.3309	0.2544	0.2096	-0.5969
	0.0050	0.0150	0.0126	0.0301	0.0286	0.0024	0.0068
3	-0.6150	2.7333	-1.0673	-0.3241	0.2532	0.3102	-0.8266
	0.0039	0.0152	0.0103	0.0378	0.0145	0.0024	0.0079
4	-0.6008	2.7394	-1.0590	-0.3248	0.2530	0.4108	-0.9918
	0.0049	0.0154	0.0115	0.0368	0.0202	0.0022	0.0082
5	-0.6409	2.7601	-1.0625	-0.3362	0.2531	0.5119	-1.1482
	0.0040	0.0122	0.0121	0.0323	0.0145	0.0024	0.0070
6	-0.6341	2.7506	-1.0701	-0.3312	0.2517	0.6128	-1.1661
	0.0039	0.0100	0.0119	0.0383	0.0186	0.0020	0.0041
7	-0.6208	2.7653	-1.0787	-0.3320	0.2515	0.7113	-1.2444
	0.0041	0.0196	0.0130	0.0317	0.0236	0.0028	0.0070
8	-0.5995	2.7425	-1.0619	-0.3285	0.2533	0.8123	-1.2542
	0.0048	0.0128	0.0097	0.0338	0.0232	0.0036	0.0063
9	-0.6311	2.7563	-1.0768	-0.3354	0.2483	0.9132	-1.1438
	0.0037	0.0127	0.0111	0.0381	0.0181	0.0029	0.0073
10	-0.6241	2.7602	-1.0765	-0.3327	0.2512	1.0135	-0.8716
	0.0042	0.0112	0.0098	0.0357	0.0139	0.0003	0.0047
11	-0.6251	2.7627	-1.0682	-0.3357	0.2573	1.1144	-0.3026
	0.0040	0.0090	0.0128	0.0351	0.0325	0.0048	0.0041
12	-0.6384	2.7752	-1.0747	-0.3320	0.2552	1.2151	0.0331
	0.0077	0.0123	0.0105	0.0369	0.0245	0.0020	0.0049

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.65	16.88	120.39	7.75	-2.75	0.00	-1.79
1	-2.61	16.88	121.02	7.89	-2.74	1.00	-0.99
2	-2.57	16.88	119.94	7.90	-2.79	2.00	-2.83
3	-2.59	16.79	120.38	7.74	-2.77	3.00	-3.98
4	-2.52	16.83	119.38	7.76	-2.77	4.00	-4.81
5	-2.71	16.96	119.79	8.03	-2.77	5.00	-5.59
6	-2.68	16.90	120.71	7.91	-2.76	6.00	-5.68
7	-2.62	16.99	121.74	7.93	-2.76	7.00	-6.07
8	-2.51	16.85	119.72	7.84	-2.78	8.00	-6.12
9	-2.67	16.94	121.51	8.01	-2.72	9.00	-5.57
10	-2.63	16.96	121.48	7.94	-2.75	10.00	-4.21
11	-2.64	16.98	120.48	8.02	-2.82	11.00	-1.36
12	-2.70	17.05	121.26	7.93	-2.80	12.00	0.32
Averages	-2.62	16.92	120.64	7.90	-2.77	6.00	-3.75

Total Forces (including tare forces) :

Lift = 120.64 lbs, CL = 0.201
Drag = 7.90 lbs, CD = 0.0131
Moment = -2.77 ft-lbs, CM = -0.009

Tunnel Pressure & Velocity :

Pt = -2.62 psiG = 11.78 psiA
Pv = 16.92 Dpsi, Vt = 49.79 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.79	0.107
1	0.030	-0.99	0.060
2	0.060	-2.83	0.170
3	0.110	-3.98	0.240
4	0.160	-4.81	0.289
5	0.260	-5.59	0.334
6	0.330	-5.68	0.340
7	0.450	-6.07	0.362
8	0.560	-6.12	0.368
9	0.680	-5.57	0.333
10	0.810	-4.21	0.251
11	0.900	-1.36	0.081
12	0.950	0.32	-0.019

*
EOR

YTS307.D03 - Continued

Run number : 290
* tare run for run 209
*
Angle of attack : 0.00 degrees
Tunnel pressure = 1.973 ftHgA = 11.63 psiA
Speed manometer = 3.145 ftHgW = 50.17 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	-0.6451	2.7894	-0.0842	-0.0926	0.0056	0.1088	0.4104
	0.0052	0.0132	0.0080	0.0315	0.0055	0.0023	0.0061
1	-0.6514	2.7971	-0.0833	-0.0983	0.0053	0.1087	0.4187
	0.0039	0.0093	0.0074	0.0352	0.0034	0.0023	0.0049

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	-2.76	17.19	-2.42	2.60	-0.02	0.00	2.88
1	-2.79	17.24	-2.53	2.74	-0.01	1.00	2.92
Averages	-2.78	17.22	-2.48	2.67	-0.01	0.50	2.90

Tare Forces :

Lift = -2.48 lbs, CL = -0.004
Drag = 2.67 lbs, CD = 0.0044
Moment = -0.01 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

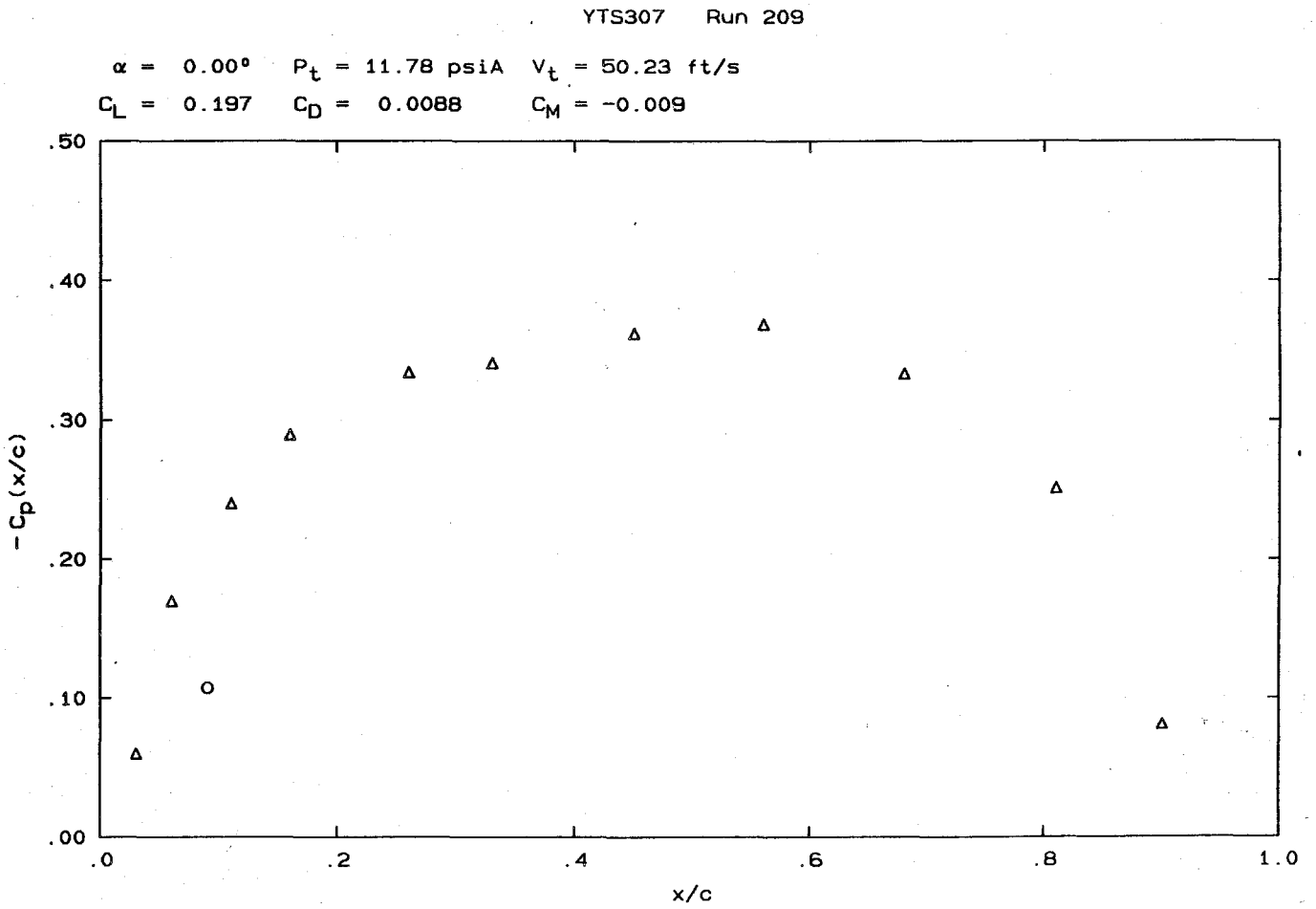
Pt = -2.78 psiG = 11.61 psiA
Pv = 17.22 Dpsi, Vt = 50.23 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 118.16 lbs, CL = 0.197
Drag = 5.23 lbs, CD = 0.0088
Moment = -2.78 ft-lbs, CM = -0.009

EOF YTS307.D03


YTS307 Run 209
α = 0.00° Pt = 11.78 psiA Vt = 50.23 ft/s
CL = 0.197 CD = 0.0088 CM = -0.009
.50
.40
.30
.20
.10
.00
-Cp(x/c)
.0
.2
.4
.6
.8
1.0
x/c

YTS308.D03 3-FEB-88

YTS308.dat 25-JUN-87
* Data processed using YTS289.off offset file and YTS026.clb calibration file
* fully wetted case . to obtain gap size effect
* on cl and cd
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.444 ft HgA, = 14.40 psiA
Water temperature : 25.80 C
Water air content : 0.00 ml/lt

YTS314.dat 06-JUL-87
* Data processed using YTS311.off offset file and YTS026.clb calibration file
* tare runs
*
* 16 records [1 rec = 128 conv./ch] per point

Ambient pressure : 2.442 ft HgA, = 14.39 psiA
Water temperature : 0.00 C
Water air content : 0.00 ml/lt

YTS308.D03 - Continued

Run number : 210
*
Angle of attack : 0.00 degrees
Tunnel pressure = 3.001 ftHgA = 17.69 psiA
Speed manometer = 3.092 ftHgW = 49.75 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.5728	2.7531	-1.0401	-0.3314	0.2793	0.0077	-0.3911
	0.0075	0.0088	0.0126	0.0351	0.0137	0.0021	0.0051
1	0.5950	2.7571	-1.0390	-0.3270	0.2806	0.1089	-0.1939
	0.0064	0.0143	0.0118	0.0325	0.0131	0.0022	0.0086
2	0.5556	2.7851	-1.0543	-0.3389	0.2791	0.2096	-0.5701
	0.0053	0.0100	0.0133	0.0353	0.0124	0.0023	0.0048
3	0.6032	2.7728	-1.0521	-0.3221	0.2750	0.3101	-0.8213
	0.0104	0.0081	0.0129	0.0432	0.0181	0.0023	0.0089
4	0.5965	2.7756	-1.0488	-0.3289	0.2805	0.4108	-0.9772
	0.0062	0.0112	0.0108	0.0408	0.0159	0.0022	0.0053
5	0.5970	2.7763	-1.0495	-0.3357	0.2798	0.5118	-1.1423
	0.0046	0.0111	0.0095	0.0366	0.0223	0.0023	0.0059
6	0.5838	2.7489	-1.0430	-0.3236	0.2770	0.6127	-1.1506
	0.0050	0.0091	0.0107	0.0356	0.0157	0.0019	0.0068
7	0.5916	2.7661	-1.0425	-0.3253	0.2830	0.7113	-1.2191
	0.0042	0.0095	0.0127	0.0470	0.0160	0.0028	0.0047
8	0.6089	2.7438	-1.0346	-0.3356	0.2809	0.8121	-1.2310
	0.0049	0.0096	0.0103	0.0418	0.0281	0.0035	0.0075
9	0.5791	2.7465	-1.0366	-0.3332	0.2792	0.9130	-1.1192
	0.0058	0.0124	0.0123	0.0448	0.0195	0.0031	0.0061
10	0.5749	2.7560	-1.0402	-0.3313	0.2773	1.0136	-0.8421
	0.0061	0.0097	0.0113	0.0455	0.0174	0.0007	0.0048
11	0.5640	2.7620	-1.0424	-0.3258	0.2803	1.1144	-0.2848
	0.0058	0.0116	0.0124	0.0452	0.0194	0.0048	0.0061
12	0.6057	2.7447	-1.0362	-0.3308	0.2777	1.2150	0.0459
	0.0061	0.0112	0.0111	0.0409	0.0147	0.0019	0.0043

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.24	16.92	117.10	7.92	-3.07	0.00	-1.80
1	3.35	16.94	116.97	7.81	-3.08	1.00	-0.82
2	3.16	17.12	118.80	8.09	-3.06	2.00	-2.70
3	3.39	17.04	118.54	7.70	-3.02	3.00	-3.96
4	3.36	17.06	118.14	7.86	-3.08	4.00	-4.73
5	3.36	17.06	118.23	8.02	-3.07	5.00	-5.56
6	3.29	16.89	117.45	7.73	-3.04	6.00	-5.60
7	3.33	17.00	117.39	7.77	-3.11	7.00	-5.94
8	3.42	16.86	116.44	8.01	-3.08	8.00	-6.00
9	3.27	16.88	116.68	7.96	-3.06	9.00	-5.45
10	3.25	16.93	117.11	7.91	-3.04	10.00	-4.06
11	3.20	16.97	117.38	7.79	-3.08	11.00	-1.27
12	3.40	16.86	116.64	7.90	-3.05	12.00	0.38
Averages	3.31	16.96	117.49	7.89	-3.07	6.00	-3.66

YTS308.D03 Run 210 - Continued

Total Forces (including tare forces) :

Lift = 117.49 lbs, CL = 0.195
Drag = 7.89 lbs, CD = 0.0131
Moment = -3.07 ft-lbs, CM = -0.010

Tunnel Pressure & Velocity :

Pt = 3.31 psiG = 17.71 psiA
Pv = 16.96 Dpsi, Vt = 49.86 ft/s

Pressure tap data :

Tap	x/c	psi	-Cp
0	0.090	-1.80	0.108
1	0.030	-0.82	0.049
2	0.060	-2.70	0.160
3	0.110	-3.96	0.235
4	0.160	-4.73	0.281
5	0.260	-5.56	0.330
6	0.330	-5.60	0.336
7	0.450	-5.94	0.354
8	0.560	-6.00	0.361
9	0.680	-5.45	0.327
10	0.810	-4.06	0.243
11	0.900	-1.27	0.076
12	0.950	0.38	-0.023

* tap 6 repeated
*
EOR

YTS308.D03 - Continued

Run number : 291
* tare run for run 210
*
Angle of attack : 0.00 degrees
Tunnel pressure = 2.989 ftHgA = 17.62 psiA
Speed manometer = 3.118 ftHgW = 49.95 ft/s

	GPtest	DPvel	Lift	Drag	Moment	PVport	DPport
0	0.5572	2.7782	-0.0858	-0.0900	0.0060	0.1086	-0.7598
	0.0060	0.0112	0.0070	0.0348	0.0039	0.0023	0.0133
1	0.5734	2.7724	-0.0847	-0.0894	0.0076	0.1087	-0.7769
	0.0048	0.0069	0.0056	0.0375	0.0104	0.0022	0.0070

	psiG	Dpsi	lb	lb	ft-lb	tap #	Dpsi
0	3.14	17.12	-2.23	2.54	-0.02	0.00	-2.97
1	3.22	17.09	-2.36	2.52	-0.04	1.00	-3.06
Averages	3.18	17.11	-2.29	2.53	-0.03	0.50	-3.02

Tare Forces :

Lift = -2.29 lbs, CL = -0.004
Drag = 2.53 lbs, CD = 0.0042
Moment = -0.03 ft-lbs, CM = 0.000

Tunnel Pressure & Velocity :

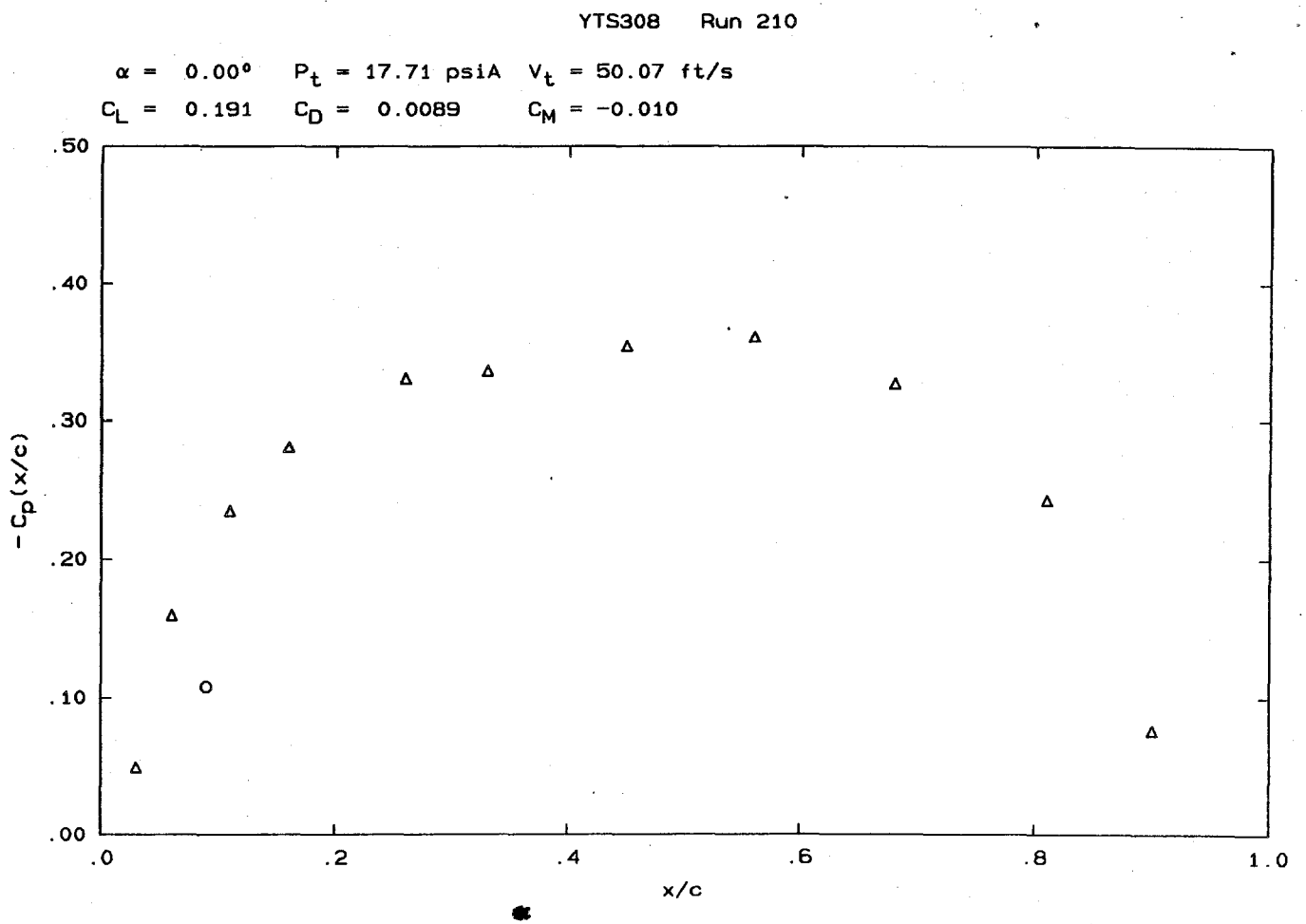
Pt = 3.18 psiG = 17.57 psiA
Pv = 17.11 Dpsi, Vt = 50.07 ft/s

*
EOR

Model Forces (excluding tare forces) :

Lift = 115.19 lbs, CL = 0.191
Drag = 5.36 lbs, CD = 0.0089
Moment = -3.09 ft-lbs, CM = -0.010

EOF YTS308.D03


YTS308 Run 210
α = 0.00° P_t = 17.71 psiA V_t = 50.07 ft/s
C_L = 0.191 C_D = 0.0089 C_M = −0.010
.50
.40
.30
.20
.10
.00
$-C_p(x/c)$
.0
.2
.4
.6
.8
1.0
x/c

COMENT 9-Feb-1988 14:21:54
9-Feb-1988 14:21:47

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name	Type	Name
	MERGE		PROMPT		PUTSTR

COMMAND QUALIFIERS

FOR/EXT/NOOBJ PXD158/LIST

/CHECK=(NOBOUNDS,OVERFLOW,NOUNDERFLOW)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/STANDARD=(NOSYNTAX,NOSOURCE_FORM)
/SHOW=(NOPREPROCESSOR,NOINCLUDE,MAP,NODICTIONARY,SINGLE)
/WARNINGS=(GENERAL,NODECLARATIONS)
/CONTINUATIONS=19 /NOCROSS_REFERENCE /NOD_LINES /EXTEND_SOURCE /F77
/NOG_FLOATING /I4 /NOMACHINE_CODE /OPTIMIZE

COMPILATION STATISTICS

Run Time:	14.40 seconds
Elapsed Time:	15.21 seconds
Page Faults:	974
Dynamic Memory:	713 pages